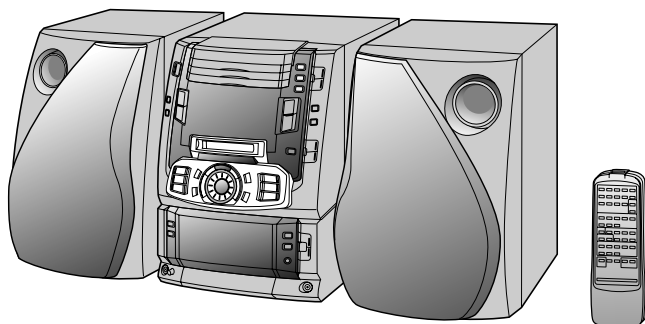



# SHARP SERVICE MANUAL

No.S6839MDX60///



## MD-X60



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• In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified should be used.



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FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

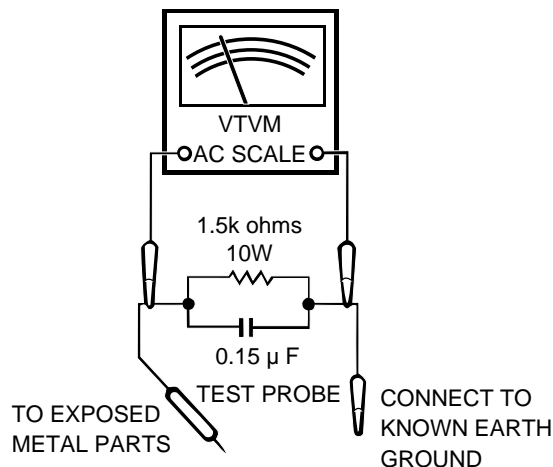
## IMPORTANT SERVICE NOTES

### BEFORE RETURNING THE AUDIO PRODUCT

(Fire & Shock Hazard)

Before returning the audio product to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the audio product.
2. Inspect all protective devices such as insulating materials, cabinet, terminal board, adjustment and compartment covers or shields, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.
  - \* Plug the AC line cord directly into a 120 volt AC outlet.
  - \* Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 $\mu$ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as conduit or electrical ground connected to earth ground.
  - \* Use a VTVM or VOM with 1000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor (See diagram).
  - \* Connect the resistor connection to all exposed metal parts having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.



All check must be repeated with the AC line cord plug connection reversed.

Any reading of 0.3 volt RMS (this corresponds to 0.2 milliamp. AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the audio product to the owner.

## SPECIFICATIONS

### ● MiniDisc recorder section

<b>Type:</b>	MiniDisc recorder
<b>Signal readout:</b>	Non-contact, 3-beam semi-conductor laser pickup
<b>Audio channel:</b>	Stereo; 2 channels Monaural; 1 channel (long-time recording mode)
<b>Frequency response:</b>	20 - 20,000 Hz
<b>Rotation speed:</b>	400 - 900 rpm CLV, Approx
<b>Quantization:</b>	16-bit linear
<b>Filter:</b>	8-times oversampling digital filter
<b>Error correction:</b>	ACIRC (Advanced Cross Interleave Reed-Solomon Code)
<b>Coding:</b>	ATrac (Adaptive TRansform Acoustic Coding)
<b>Recording method:</b>	Magnetic modulation overwrite method
<b>D/A converter:</b>	1-bit D/A converter
<b>Sampling frequency:</b>	44.1 kHz
<b>Wow and flutter:</b>	Unmeasurable (less than 0.001% W. peak)
<b>Signal/noise ratio:</b>	95 dB (1 kHz)
<b>Dynamic range:</b>	90 dB (1 kHz)

### ● Compact disc player section

<b>Type:</b>	3-disc multi-play compact disc player
<b>Signal readout:</b>	Non-contact, 3-beam semi-conductor laser pickup
<b>Rotation speed:</b>	200 - 500 rpm CLV, Approx.
<b>Error correction:</b>	CIRC (Cross Interleave Reed-Solomon Code)
<b>Quantization:</b>	16-bit linear
<b>D/A converter:</b>	1-bit D/A converter
<b>Filter:</b>	8-times oversampling digital filter
<b>Frequency response:</b>	20 - 20,000 Hz
<b>Signal/noise ratio:</b>	95 dB (1 kHz)
<b>Dynamic range:</b>	90 dB (1 kHz)
<b>Wow and flutter:</b>	Unmeasurable (less than 0.001% W. peak)

### ● Tuner section

<b>Frequency range:</b>	FM; 87.5 - 108 MHz AM; 530 - 1,720 kHz
<b>Sensitivity:</b>	FM; 2.5 $\mu$ V (75 ohms unbalanced) AM; 650 $\mu$ V/m

### ● Cassette deck section

<b>Type:</b>	Compact cassette tape
<b>Frequency response:</b>	50 - 14,000 Hz (Normal tape) 50 - 15,000 Hz (CrO <sub>2</sub> tape)
<b>Motor:</b>	DC motor with electronic governor $\times$ 1
<b>Signal/noise ratio:</b>	50 dB (Recording/Playback, Dolby NR off) Dolby NR effect; 10 dB (at over 5 kHz)
<b>Bias and erasure system:</b>	AC
<b>Tape speed:</b>	1-7/8 ips. (4.76 cm/sec.)
<b>Wow and flutter:</b>	0.15 % (WRMS)
<b>Heads:</b>	Record/playback $\times$ 1 Erase $\times$ 1

### ● General

<b>Power source:</b>	AC 120 V, 60 Hz
<b>Power consumption:</b>	101 W
<b>Output power:</b>	40 watts per channel minimum RMS into 6 ohms from 60 Hz to 20 kHz with no more than 10 % total harmonic distortion
<b>Input terminals:</b>	MD IN/AUX (Analog-1); 500 mV/47 kohms Auxiliary (Analog-2); 500 mV/47 kohms Auxiliary (Digital); optical
<b>Output terminals:</b>	Auxiliary; 2.0 V/1 kohm Headphones; 16 - 50 ohms (recommended; 32 ohms) Speakers; 6 ohms
<b>Dimensions:</b>	Width; 9-1/2" (240 mm) Height; 13-1/8" (332 mm) Depth; 12-13/16" (325 mm)
<b>Weight:</b>	19.0 lbs. (8.6 kg)

### ● Speaker section

<b>Type:</b>	3-way type [6" (150 mm) woofer, 2-1/2" (65 mm) tweeter and super tweeter]
<b>Maximum input power:</b>	100 W
<b>Rated input power:</b>	50 W
<b>Impedance:</b>	6 ohms
<b>Dimensions:</b>	Width; 8-1/8" (205 mm) Height; 13-1/8" (332 mm) Depth; 12-3/4" (323 mm)
<b>Weight:</b>	9.3 lbs. (4.2 kg)/each

Specifications for this model are subject to change without prior notice.

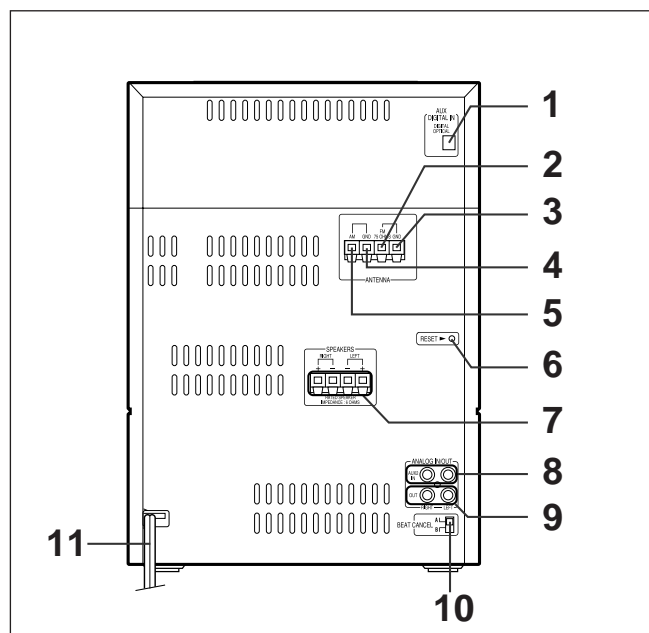
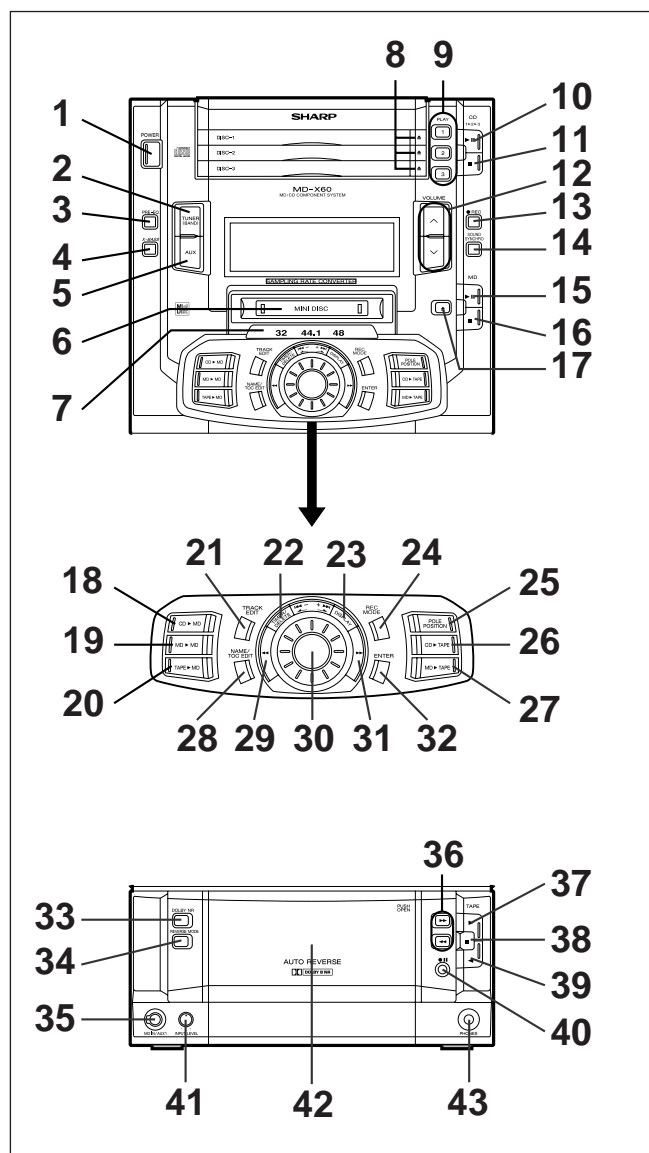
## NAMES OF PARTS

### ■ Front panel

1. Power Button: POWER
2. Tuner Call (Band Select) Button: TUNER (BAND)
3. Preset Equalizer Button: PRE-EQ
4. Extra Bass Button: X-BASS
5. Auxiliary Input (Digital/Analog) Select Button: AUX
6. MD Compartment
7. Sampling Frequency Indicators
8. (CD) Open/Close Buttons: ▲
9. (CD) Play Buttons: 1 ►, 2 ►, 3 ►
10. (CD) Play/Pause Button and Indicator: ► II
11. (CD) Stop Button: ■
12. Volume Up/Down Buttons: VOLUME ▲/▼
13. (MD) Record Button: ● REC
14. Sound Synchro Record Button
15. (MD) Play/Pause Button: ► II
16. (MD) Stop Button: ■
17. (MD) Eject Button: ▲
18. CD ► MD Edit Button: CD ► MD
19. MD ► MD Edit Button: MD ► MD
20. TAPE ► MD Edit Button: TAPE ► MD
21. (CD/MD) Track Edit Button: TRACK EDIT
22. Timer/Delete Button: TIMER/DELETE
23. Display Button: DISPLAY
24. (MD) Record Mode Button: REC MODE
25. (MD) Pole Position Button: POLE POSITION
26. CD ► TAPE Edit Button: CD ► TAPE
27. MD ► TAPE Edit Button: MD ► TAPE
28. (MD) Name/TOC-Edit Button: NAME/TOC EDIT
29. (TUNER) Tuning Down Button: ◀◀  
(CD) Track Down/Review Button: ◀◀  
(MD) Track Down/Review/Cursor Button: ◀◀
30. Jog Dial
31. (TUNER) Tuning Up Button: ►►  
(CD) Track Up/Cue Button: ►►  
(MD) Track Up/Cue/Cursor Button: ►►
32. Enter Button: ENTER
33. (TAPE) Dolby NR Button: DOLBY NR
34. (TAPE) Reverse Mode Button: REVERSE MODE
35. MD Edit/Auxiliary 1 (Analog) Input Jack: MD IN/AUX 1
36. (TAPE) Fast Wind Buttons: ◀◀/►►
37. (TAPE) Forward Play Button: ►
38. (TAPE) Stop Button: ■
39. (TAPE) Reverse Play Button: ◀
40. (TAPE) Record Pause Button: ● II
41. Auxiliary Input Level (Analog) Control: INPUT LEVEL
42. Cassette Compartment
43. Headphone Jack: PHONES

### ■ Rear panel

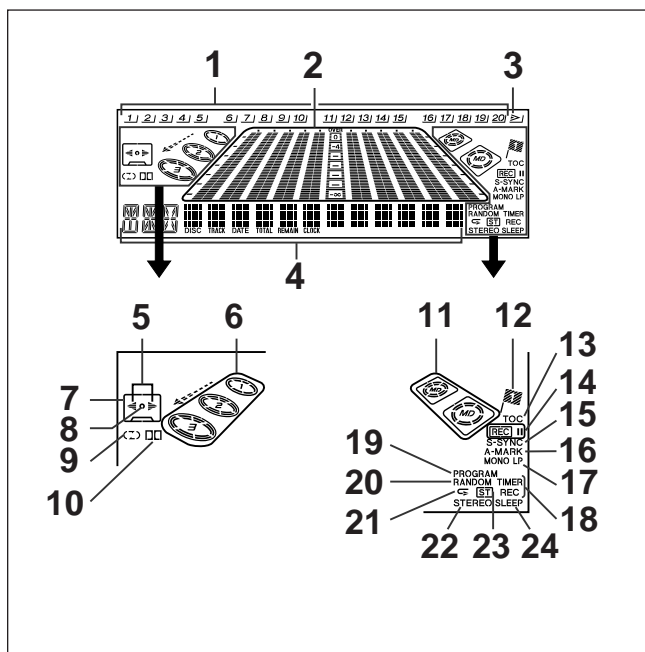
1. Auxiliary Digital Input Jack (Optical)
2. 75 Ohm FM Antenna Terminal
3. FM Antenna Ground Terminal
4. AM Antenna Ground Terminal
5. AM Antenna Terminal
6. Reset Button
7. Speaker Terminals
8. AUX 2 (Analog) Input Jacks
9. Analog Output Jacks
10. Beat Cancel Switch
11. AC Power Cord



# MD-X60

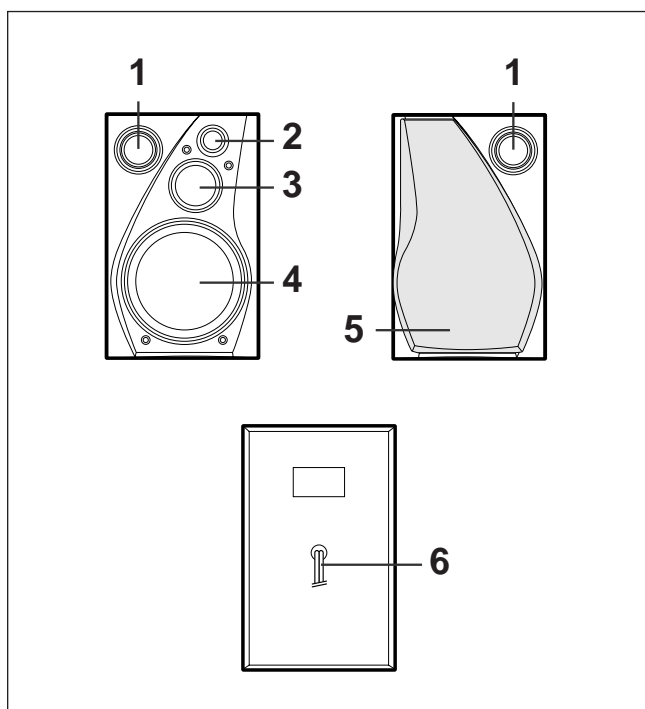
## ■ Display window

1. (CD/MD) Music Schedule Indicators
2. Level Meters
3. (CD/MD) More Tracks Indicator: ►
4. Character Information Display
5. (TAPE) Direction Indicators: ◀/▶
6. CD Indicator
7. (TAPE) Loading Indicator
8. (TAPE) Recording Indicator
9. (TAPE) Reverse Mode Indicator
10. (TAPE) Dolby NR Indicator: □□
11. MD Indicator
12. Pole Position Record Indicator
13. (MD) TOC Indicator: TOC
14. (MD) Record Indicator: REC
15. (MD) Sound Synchro Indicator: S.SYNC
16. (MD) Auto Mark Indicator: AUTO MARK
17. (MD) Recording Mode Indicator: MONO LP
18. Timer Play/Timer Record Indicator
19. (CD/MD) Program Indicator: PROGRAM
20. (CD/MD) Random Play Indicator: RANDOM
21. (CD/MD) Repeat Indicator: ◁
22. FM Stereo Mode Indicator: STEREO
23. FM Stereo Indicator: ST
24. Sleep Indicator: SLEEP



## ■ Speaker section

1. Bass Reflex Duct
2. Super Tweeter
3. Tweeter
4. Woofer
5. Speaker Grille
6. Speaker Wire



### ■ Remote control

1. Remote Control Transmitter LED
2. (MD/CD/TUNER) Direct Key
3. (CD/MD) Program Button: PROGRAM
4. (CD/MD) Program Clear Button: CLEAR
5. (CD/MD) Play Mode Button: P-MODE

### ● Tuner control section

6. Tuner Call (Band Select) Button: TUNER/BAND
7. FM Stereo Mode Button: ST MODE

### ● MD control section

8. Record Button: ● REC
9. Track Up, Cue/Down, Review Buttons: ◀◀/▶▶
10. Stop Button: ■
11. Play/Pause Button: ▶ ||
12. Sound Synchro Record Button: S.SYNC
13. Auto Mark Button: A.MARK
14. Record Mode Button: REC MODE

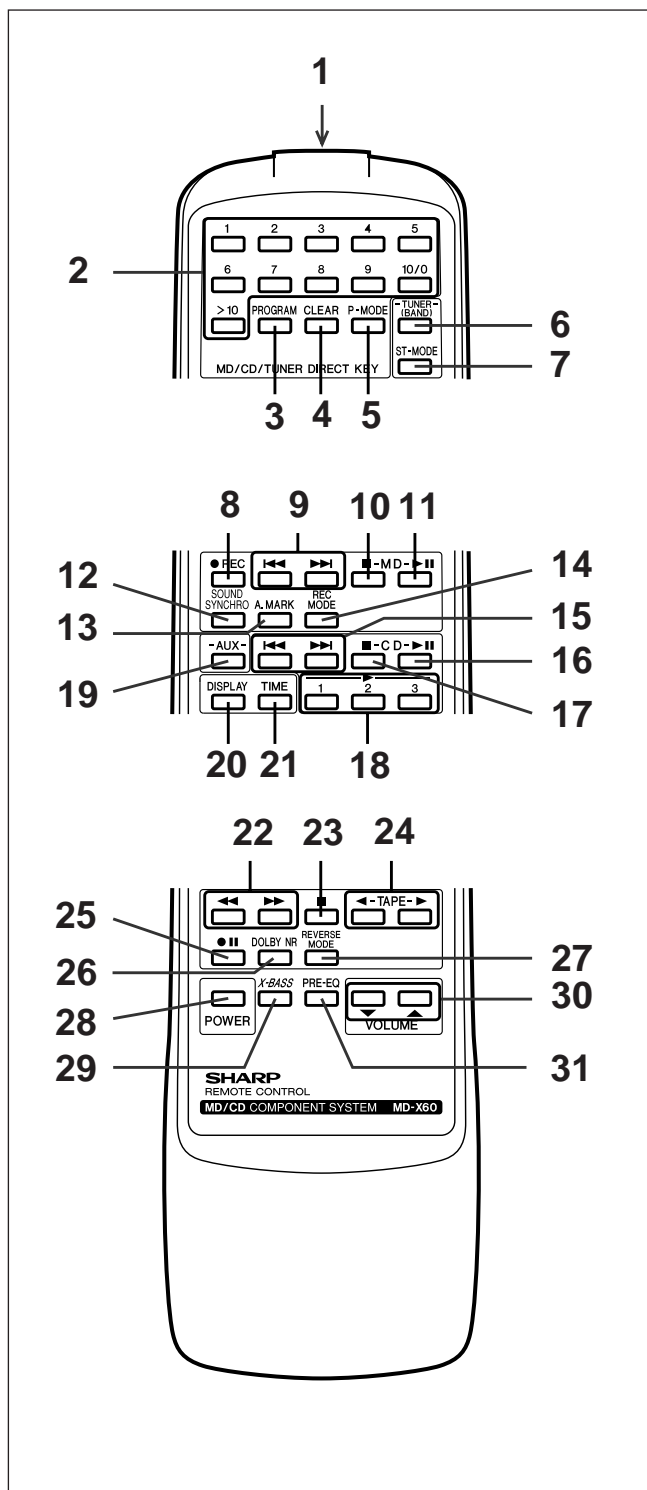
### ● CD control section

15. Track Up, Cue/Down, Review Buttons: ◀◀/▶▶
16. Play/Pause Button: ▶ ||
17. Stop Button: ■
18. Play Buttons: 1 ▶, 2 ▶, 3 ▶
19. Auxiliary Input (Digital/Analog) Select Button: AUX
20. Display Button: DISPLAY
21. Time Display Select Button: TIME

### ● Tape control section

22. Fast Wind Buttons: ◀◀/▶▶
23. Stop Button: ■
24. Play Buttons: ◀/▶
25. Record Pause Button: ● ||
26. Dolby NR Button: DOLBY NR
27. Reverse Mode Button: REVERSE MODE

28. Power Button: POWER
29. Extra Bass Button: X-BASS
30. Volume Up/Down Buttons: ▲/▼
31. Pre-programed Equalizer Button: PRE-EQ



MINIDISC SYSTEM LIMITATIONS

Even if the maximum recording time of a MiniDisc has not been reached, "TOC FULL" may be displayed.	In the MD system, the delimiter of the recording area on an MD is programmed in a TOC. If partial erasing, recording and editing are repeated several times, TOC information will fill up, even though the number of tracks has not reached the limit (235 tracks), and further recording will be impossible. (If you use the all erase function, this MD can be used from the beginning.)
Even if the maximum recording time of a MiniDisc has not been reached, "DISC FULL" may be displayed.	If there is any flaw on the MiniDisc, that part is automatically excluded from the space available for recording. Therefore, the recording time becomes shorter.
Even if several short tracks are erased, the remaining recording time may not show an increase.	When the remaining recording time of a disc is displayed, short tracks less than 12 seconds long may not be included in the total.
Two tracks may not be combined in editing.	For MiniDiscs on which repeated recording and editing operations were performed, the COMBINE function may not work. A track recorded from a CD (digital recording) and a track recorded from a radio or other equipment (analog recording) cannot be combined.
The total of the recorded time and time remaining on a disc may not add up to the maximum possible recording time.	A cluster (about 2 seconds) is normally the minimum unit of recording. So, even if a track is less than 2 seconds long, it will use about 2 seconds of space on the disc. Therefore, the time actually available for recording may be less than the remaining time displayed. If there are scratches on discs, those sections will be automatically avoided (no recording will be placed in those sections). Therefore, the recording time will be reduced.
If recorded tracks are fast reversed or fast forwarded, the sound may skip.	An MD which has been recorded or edited repeatedly may skip during fast reverse or fast forward.

TROUBLESHOOTING

■ If a problem occurs

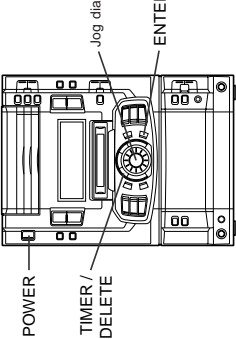
If this unit functions abnormally during operation, first check the following items. If the unit continues to function abnormally, or if an abnormality appears other than listed below, turn off the player's power and disconnect the AC power plug, then consult your SHARP dealer or service personnel.

General	SYMPTOM	POSSIBLE CAUSE	REMEDY
	● The clock is wrong.	● Did a power failure occur?	● Try setting it again.
	● When a button is pressed, the unit does not respond.	_____	● Set this unit to the stand-by mode and then turn it back on. Then, retry the operation.
	● No sound is heard.	● Is the volume level is set to "0"? ● Are the headphones connected? ● Are the speaker wires disconnected?	● Increase the volume level. ● Disconnect the headphones. ● Connect the wires securely.
	● Radios make unusual noise or the picture on the TV screen is distorted.	● When a radio or TV which uses an indoor antenna is placed near the unit, the picture on the TV screen may be distorted or the radio may not function properly.	● It is recommended that you use an external antenna.

CD playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
	● Even though a disc has been loaded, "NO DISC" or "ERR" is displayed.	● Load the disc with the correct side up.
	● Playback stops in the middle of a track, or playback is not performed properly.	● Clean the disc. ● Load the correct disc.
	● Playback sounds are skipped.	● Place the unit on a firm, level surface free from vibration. ● Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.
	● Has condensation formed inside the unit?	

SETTING THE CLOCK



POWER

TIMER/DELETE

Jog dial

ENTER

2

TIMER SET

3

TIME ADJUST

4

Date setting mode

01.01.'99

5

08.01.'99

6

08.01.'99

7

08.02.'99

8

08.02.'99

9

08.02.'99

10

Time setting mode

12:00AM

11

9:00AM

12

9:00AM

13

9:30AM

14

9:30AM

(Main unit operation)

- 1 Press the POWER button to turn the power on.
- 2 Press the TIMER/DELETE button.
- 3 Within 10 seconds, turn the jog dial until "TIME ADJUST" appears.
- 4 Within 10 seconds, press the ENTER button.
- 5 The unit will enter the date setting mode.
- 5 Adjust the "month" using the jog dial.
- When you turn the jog dial and let go, the month will change up or down by one. When you turn and hold it, the month will change continuously.
- 6 Press the ENTER button to set the "month".
- 7 Adjust the "day" using the jog dial.
- 8 Press the ENTER button to set the "day".
- 9 Adjust the "year" using the jog dial.
- The year 2000 or later is set as follows:  
[00] indicates the year 2000.  
[01] indicates the year 2001.
- The range of dates that can be entered is from January 1, 1997 to December 31, 2099.
- 10 Press the ENTER button to set the "year".
- The unit will enter the time setting mode.
- 11 Adjust the "hour" using the jog dial.
- When you turn the jog dial and let go, the hour will change up or down by one. When you turn and hold it, the hour will change continuously.
- On the display, midnight is "AM 12:00" and noon is "PM 12:00". When setting the time, be careful not to confuse AM and PM.
- 12 Press the ENTER button to set the "hour".
- 13 Adjust the "minute" using the jog dial.
- 14 Press the ENTER button to set the "minute".
- The clock starts operating from "0" seconds. (Seconds are not displayed.)

Notes:

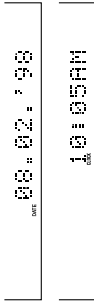
- In the event of a power failure or when the AC power cord is disconnected, the clock setting will be lost. Reset the time.
- While recording an MD, you cannot set the date and clock. Be sure to set the date and clock before recording.

Resetting the date and time:

- Once you have set the date and time, "TIME ADJUST" will not be displayed in step 2. Turn the jog dial to make the date and time appear.
- If you don't need to change the settings, just press the ENTER button without turning the jog dial again.

Checking the date and time:

- Press the TIMER/DELETE button. Then turn the jog dial until the date and time are displayed.
- Press the DISPLAY button to switch between the date and the time.



- After about 10 seconds, the original display will appear.
- Once the date and the time have been set, this unit will normally display the time when the unit is first started.
- To check the date, press the DISPLAY button.
- The display will switch between the date and the time each time you press the button.



**(Continued)****MD recording and playback**

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
● A recording cannot be made.	● Is the MiniDisc protected against accidental erasure? ● Did you try to make recording on a playback-only MiniDisc? ● Can you see the "TOC FULL" message in the display?	● Slide the accidental erase prevention tab back to its original position. ● Replace it with a recordable disc. ● Put in another recordable disc with recording space on it.
● Even though a disc has been loaded, "NO DISC" or "ERR" is displayed. ● Playback sounds are skipped.	● The disc is very dirty. ● Is the unit located near excessive vibrations? ● Has condensation formed inside the unit?	● Clean the disc. ● Place the unit on a firm, level surface free from vibration. ● Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

**Tape recording and playback**

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
● A recording cannot be made.	● Is the tape protected against accidental erasure?	● Cover the accidental erase prevention hole.
● Sound is skipped. ● Sound in high-frequency range cannot be reproduced. ● Sound quivers.	● The tape is damaged. ● The capstan and pinch roller are very dirty.	● Replace the tape. ● Clean the capstan and pinch roller.
● The cassette cannot be ejected.	● Did a power failure occur?	● Wait until the power is supplied.

**Radio reception**

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
● Radios make unusual noise consecutively.	● The unit is placed near the TV or computer. ● The antenna direction is not placed properly.	● When the unit receives a radio broadcast near a TV set, a computer or a word processor, it may pick up noise. In this happens, try to move the unit from the place where the noise is picked up. ● Correct the antenna direction.
● The preset channel cannot be recalled.	● Did you erase the programmed station?	● Preset the channel again. ● Redo programming.

**Remote control**

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
● The remote control does not function or does not operate properly.	● The batteries (polarity) are not inserted properly. ● The batteries inside the remote control are dead. ● The remote control is operated from an incorrect distance or angle.	● Insert properly. ● Replace the batteries. ● Operate it within a range of 8' (0.2 m) to 20' (6 m) and within an angle of 15° to either side of center.
● The power cannot be turned on from the remote control.	● Is the AC power cord plugged in?	● Connect the AC power cord.

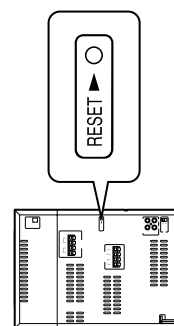
**(Continued)****■ If a problem occurs**

If this product is subjected to strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.) or if it is operated incorrectly, it may malfunction or the display may not function correctly. If such a problem occurs, do the following:

Connect the AC power cord to the AC outlet, and press the RESET button once on the rear of the main unit.

● When the RESET button is pressed, all of the contents in memory (clock and timer settings, and CD presets) other than the tuner stations will be erased.

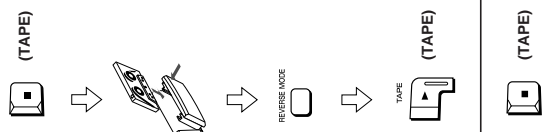
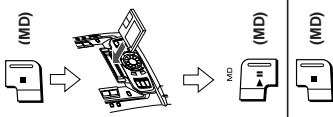
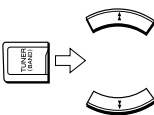
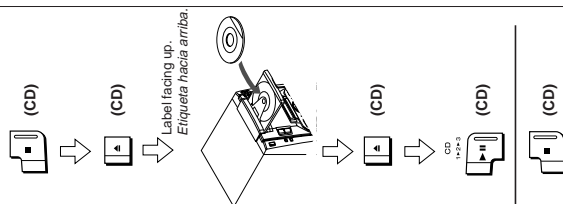
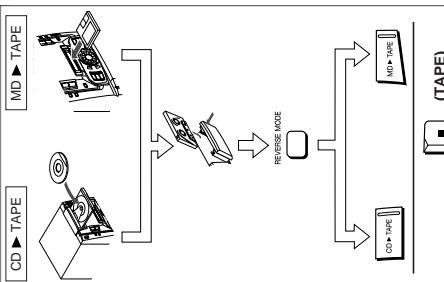
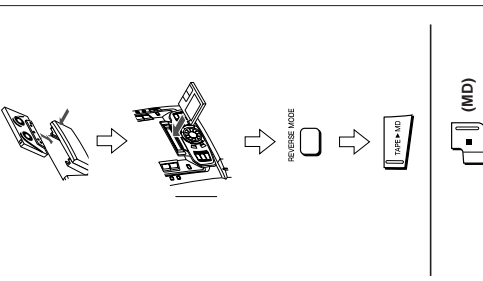
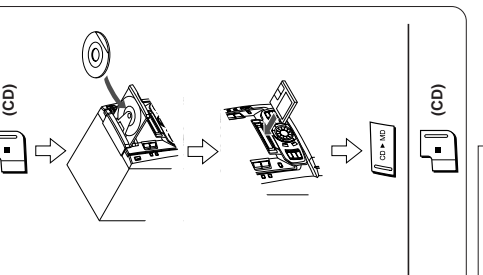
● If strange sounds, smells or smoke come out of the unit or if a foreign object falls into the unit, turn off the power, unplug the AC power cord from the AC outlet, immediately. Contact the shop where you purchased the unit.

**(Continued)**

When an error message is displayed, proceed as follows:

<b>Error messages</b>	<b>Meaning</b>	<b>Remedy</b>
<b>BLANK MD</b>	● Nothing is recorded.	● Replace it with another disc.
<b>Can't COPY</b>	● You tried to record from a copy-protected disc.	● Replace it with a regular disc that can be copied.
<b>Can't EDIT</b>	● A track cannot be edited.	● Change the stop position of the track and then try editing it.
<b>Can't REC</b>	● Recording cannot be performed correctly due to vibration or shock in the unit.	● Re-record.
<b>Can't T REC</b>	● Timer recording is impossible or there is no available space on the MD.	● Replace it with another disc.
<b>CH ERROR</b>	● There is something wrong with the CD changer.	● Set this unit to the stand-by mode and then back to on, and press the button.
<b>CONNECT ERR</b>	● While an MD player is being edited on this unit, incorrect digital signals are input from the portable MD player.	● Make sure the cable is connected correctly and that power is being supplied to the portable MD player.
<b>DEFECT</b>	● Since this disc has scratches on it, the recording operation was skipped.	● Replace it with another disc.
<b>Din UNLOCK</b>	● Incorrect digital signals are input.	● Connect correct digital signals. ● Use the analog input jacks.
<b>DISC ERR</b>	● The disc is damaged. ● A TOC is not written on the MD or there is something wrong with data.	● Reload the disc or replace it.
<b>DISC FULL</b>	● The disc is out of recording space.	● Replace the disc with another recordable disc.
<b>EDIT OVER</b>	● There is no space to make CD editing on the disc.	● Replace it with a disc that has enough time to record.
<b>FOCUS ERROR</b>	● The disc data cannot be read.	● Reload the MiniDisc.
<b>MD ERROR</b>	● No operation.	● Contact the shop where you purchased the unit.
<b>MECHA ERR* (*:Number or symbol)</b>	● There is a mechanical problem and the disc is not working properly.	● Set this unit to the stand-by mode and press the button.
<b>NAME FULL</b>	● The number of characters for the disc name or track name exceeds 100.	● Shorten the disc or track name.
<b>NO DISC</b>	● A disc has not been loaded. ● The disc data cannot be read.	● Load a disc. ● Reload the disc.
<b>NOT AUDIO</b>	● The data recorded on this disc is not audio data.	● Select another track. ● Replace the disc.
<b>PLAYBACK MD</b>	● You tried to record on a playback-only disc.	● Replace it with another recordable disc.
<b>PROTECT</b>	● Trouble is found.	● Restart the unit. If the unit doesn't work, contact a SHARP Authorized Servicing Dealer or SHARP Authorized Service station.
<b>PROTECTED</b>	● The disc is write protected. ● The tape is protected against accidental erasure.	● Move the write protection tab back to its original position. ● Cover the accidental erase prevention hole.
<b>TAPE ERROR</b>	● The tape mechanism is defective.	● Try pressing the RESET button.
<b>TEMP OVER</b>	● The temperature is too high.	● Set this unit to the stand-by mode and wait for a while.
<b>TOC ERR* (*:Number or symbol)</b>	● The disc is damaged. ● TOC information cannot be read. ● MD not specified.	● Replace it with another disc.
<b>TOC FULL* (*:Number or symbol)</b>	● There is no space left for recording character information (track names, disc names, etc.).	● Replace it with another recordable disc.
<b>TOC W ERROR</b>	● Recording is impossible.	● Contact the shop where you purchased the unit.
<b>TRAY ERROR</b>	● The CD tray operates incorrectly.	● Unplug the AC power cord, plug it back, and then turn the power on.
<b>U TOC ERR* (*:Symbol)</b>	● TOC information recorded on the MD does not match the MD specifications or it cannot be read.	● Replace it with another disc.
<b>U TOC W ERR</b>	● The TOC information could not be created properly due to a mechanical shock or to scratches on the disc.	● Turn off the power, and try to write the TOC again. (Remove any source of shock or vibration while writing.)
<b>? DISC</b>	● The data contains an error.	● Replace it with another disc.
<b>00:00</b>	● Music is not being recorded.	● Replace the disc with another recordable disc.

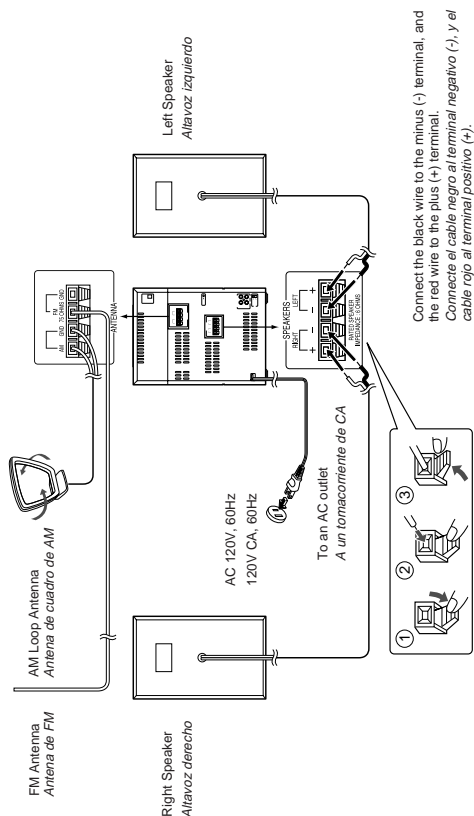
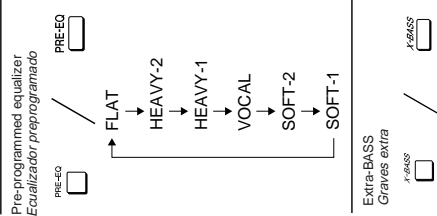
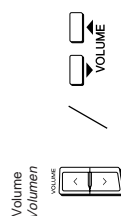
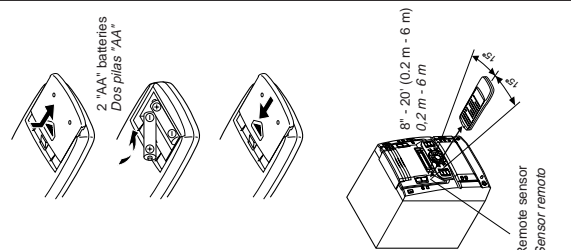
## QUICK GUIDE

Tape playback  
Reproducción de cintasPlaying a MiniDisc  
Reproducción de un minidiscoRadio operation de la  
funcionamiento de la radioCD playback  
Reproducción de discos compactosOne-touch editing  
(CD ▶ TAPE) (MD ▶ TAPE)  
Edición con una pulsación  
(CD ▶ TAPE) (MD ▶ TAPE)One-touch editing (TAPE ▶ MD)  
Edición con una pulsación (TAPE ▶ MD)One-touch editing (CD ▶ MD)  
Edición con una pulsación (CD ▶ MD)

TINSZ0338AWZZ

Printed in Malaysia  
Impreso en Malaysia  
A9805.YOMD / CD COMPONENT  
SYSTEM  
MD-X60

SHARP

Connection  
ConexiónVolume control  
Control del volumenRemote control  
Controlador remoto



## DISASSEMBLY

### Caution on Disassembly

The disassembling the machine or assembling it after repair, observe the following instructions so as to ensure safety and keep its performance.

1. Unload the compact disc, and mini-disc, cassette tape from machine.
2. Be sure to unplug the power cable before starting disassembly of the machine.
3. When disassembling each section, remove the nylon band or wire arrangement.  
After servicing the unit, be sure to rearrange the leads where they were before disassembling.  
If a screw of improper length is fit to the MD mechanism. (a screw fit the part to the mechanism chassis of MD section), it may contact the optical pickup, impeding normal operation. Hence, due care must be taken.
4. While repairing, pay utmost attention to static electricity on ICs.

MAIN UNIT			
STEP	REMOVAL	PROCEDURE	FIGURE
1	Cabinet	1. Screw ..... (A1) x9	9-1
2	Rear Panel (Upper,Bottom)	1. Screw ..... (B1) x14	9-1
3	CD Changer Block	1. Screw ..... (C1) x6 2. Screw ..... (C2) x2	10-1
4	Main PWB	1. Screw ..... (D1) x3 2. Socket ..... (D2) x6 3. Flat Cable ..... (D3) x3 4. Socket ..... (D4) x2	10-1
5	Fan Motor	1. Socket ..... (E1) x1 2. Screw ..... (E2) x2	10-2
6	Power Amp. PWB	1. Socket ..... (F1) x2 2. Lug Wire ..... (F2) x1 3. Screw ..... (F3) x3	10-2
7	Fuse PWB	1. Screw ..... (G1) x2	10-2
8	MD Holder	1. Screw ..... (H1) x4	10-2,3
9	MD Unit	1. Screw ..... (J1) x2	10-3
10	Front Panel	1. Socket ..... (K1) x1 2. Screw ..... (K2) x5	10-4
11	Power PWB	1. Screw ..... (L1) x5	10-4
12	Tape Mechanism	1. Screw ..... (M1) x4	10-5
13	Tray Switch PWB	1. Screw ..... (N1) x2 2. Socket ..... (N2) x1	10-5
14	Display PWB	1. Screw ..... (P1) x9 2. Flat Cable ..... (P2) x1	10-5
15	Switch A PWB	1. Screw ..... (Q1) x2	10-5
16	Switch B PWB	1. Knob ..... (R1) x1 2. Nut ..... (R2) x1 3. Screw ..... (R3) x5 4. Screw ..... (R4) x1	10-5
17	Jack PWB	1. Socket ..... (S1) x1 2. Screw ..... (S2) x1	10-5
18	Level Volume PWB	1. Screw ..... (T1) x1	10-5
19	Headphone PWB	1. Screw ..... (U1) x1	10-5

Note 1: After removing the connector for the optical pickup from the connector wrap the conductive aluminium foil around the front end of connector so as to protect the optical pickup from electrostatic damage.

STEP	REMOVAL	PROCEDURE	FIGURE
20	CD Mechanism	1. Screw ..... (V1) x7 2. Top Bord ..... (V2) x1 3. Disc Holder ..... (V3) x1 4. Disc Tray ..... (V4) x3 5. Screw ..... (V5) x3 6. Mechanism Holder Guide ..... (V6) x1 7. Mechanism Holder (V7) x1 8. Screw ..... (V8) x4	11-1
21	MD Mechanism	1. Screw ..... (W1) x8	11-2
22	MD Main PWB (Note 1 )	1. Screw ..... (X1) x4 2. Socket ..... (X2) x5 3. Flat Cable ..... (X3) x1	11-3
23	MD Mechanism	1. Screw ..... (Y1) x4	12-1

### Cares after repairing

After completion of repair of product set the following shipping mode to return.

1. Make sure that there is no CD disc, and then press the VOL-UP/CD DISC1 PLAY button to turn on the power, and set the TEST mode.
2. After the indication of TEST END appears, unplug the power cord. If this test mode is executed, the data stored by the user in the preset memory are all cleared. It is necessary tell and obtain the consent of user in advance.

### MAIN UNIT

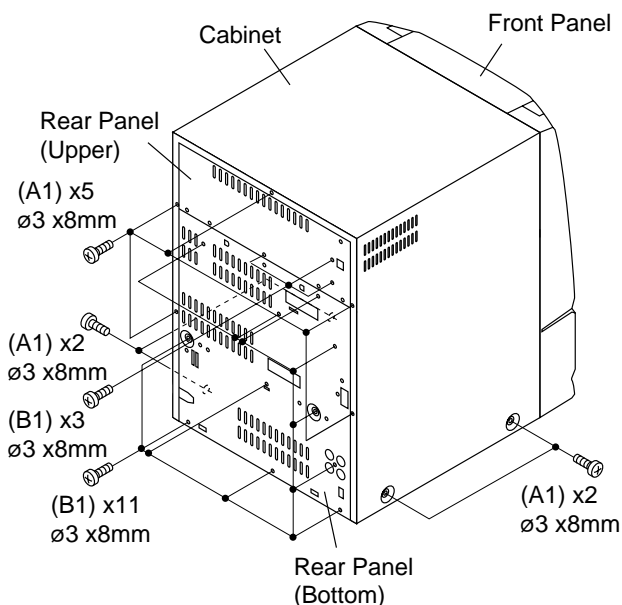


Figure 9-1

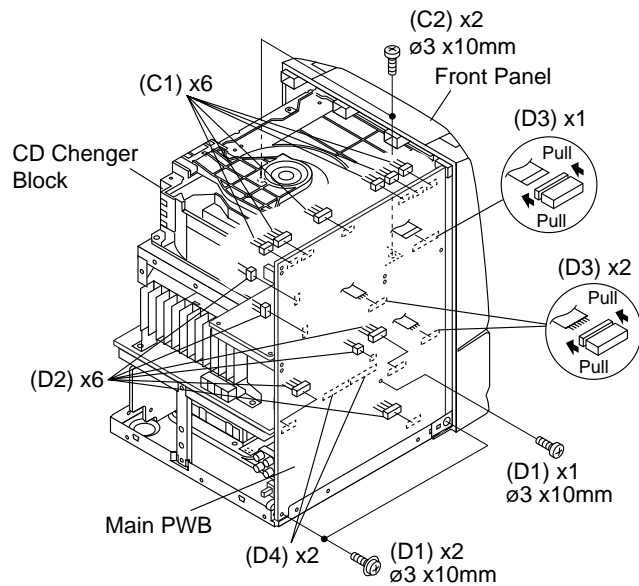


Figure 10-1

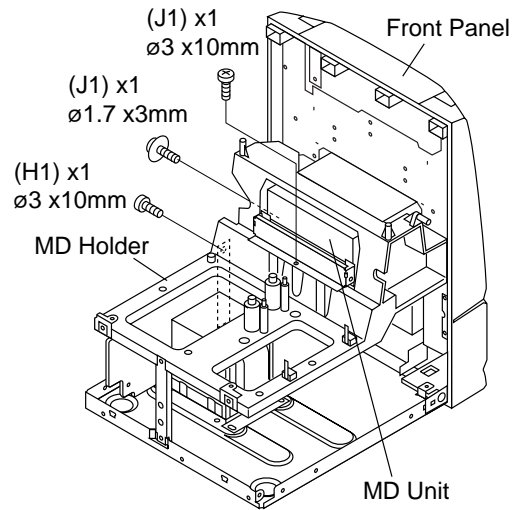


Figure 10-3

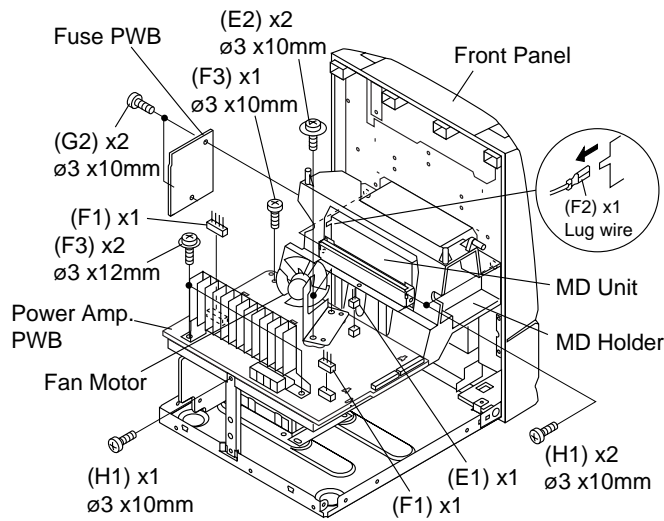


Figure 10-2

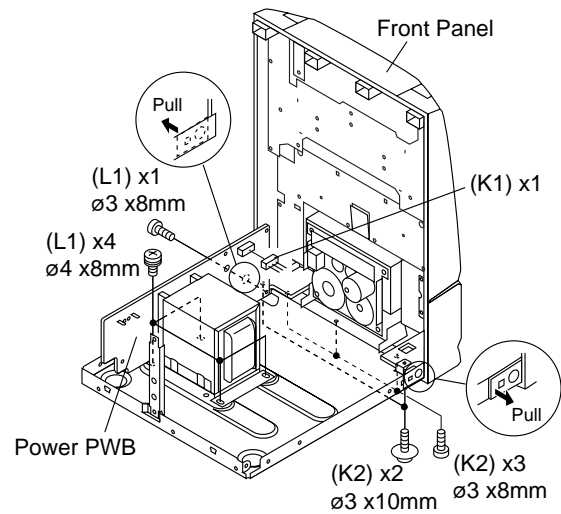


Figure 10-4

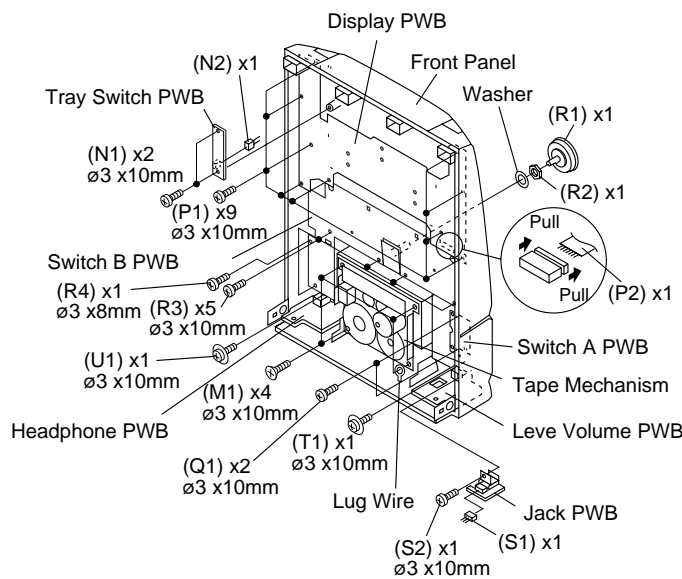


Figure 10-5

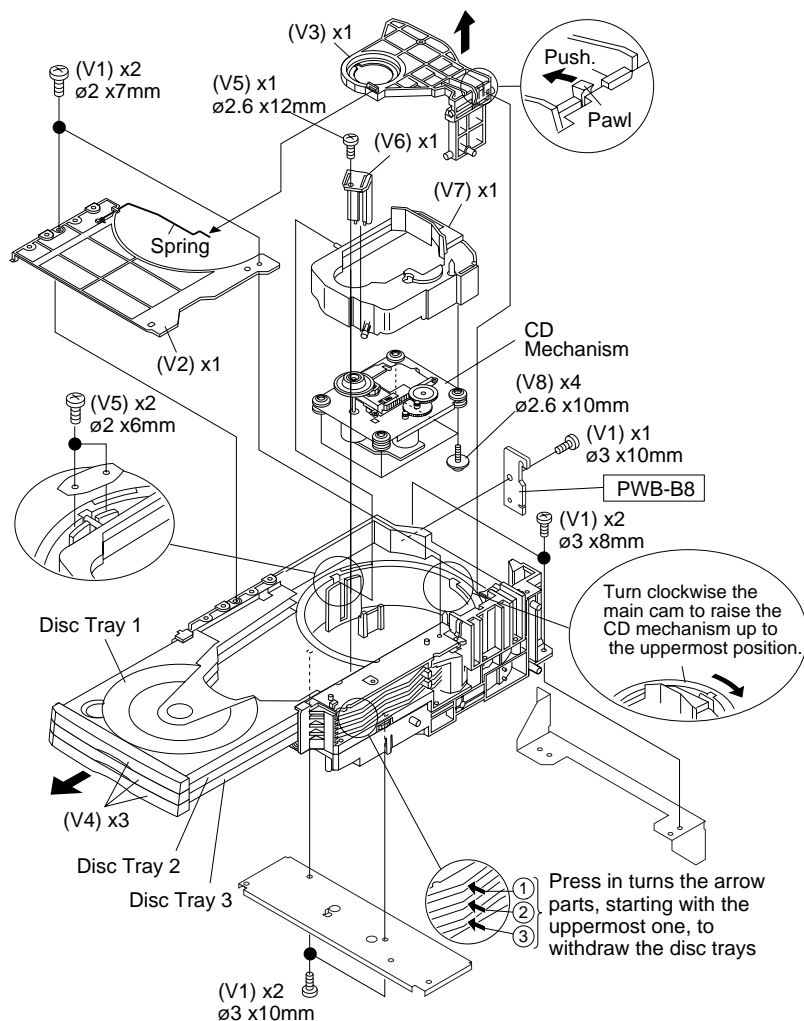


Figure 11-1

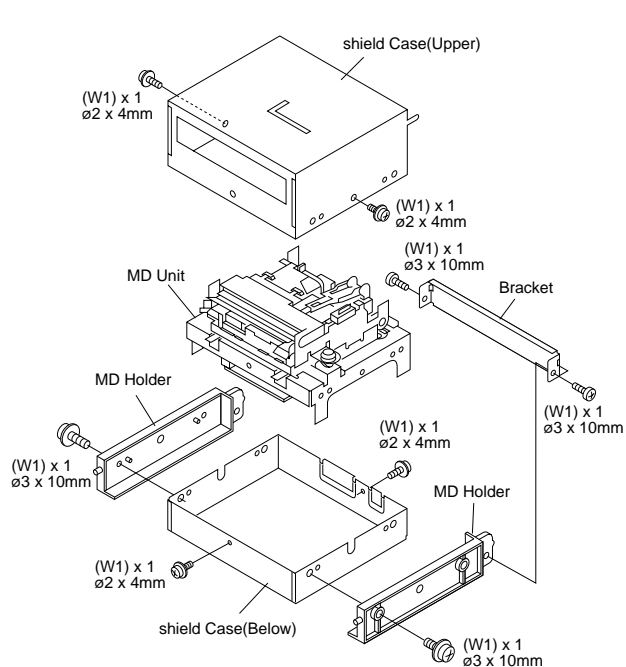
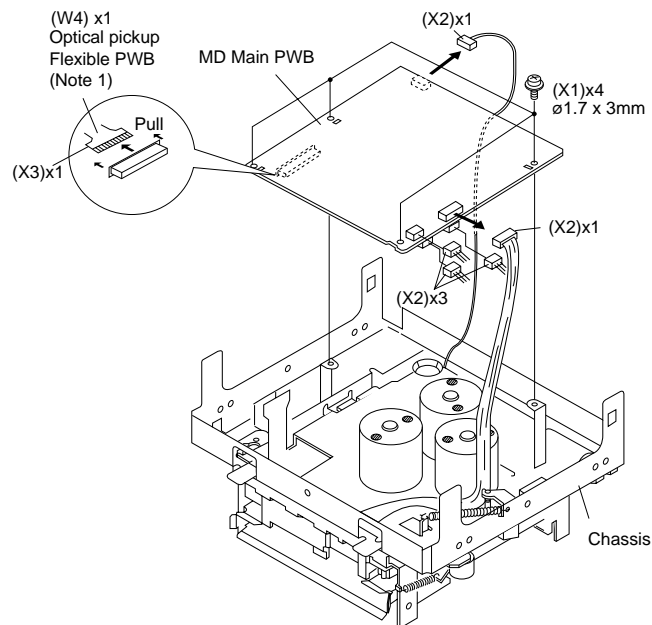


Figure 11-2



(Note 1) After removing the flexible PWB for optical pickup from the connector wrap the front end of flexible PWB in conductive aluminum foil so as to protect the optical pickup from being damaged electrostatically.

Figure 11-3

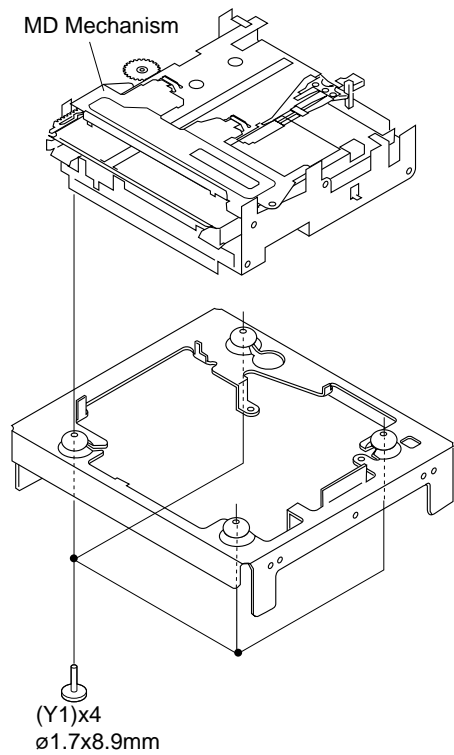


Figure 12-1

SPEAKER			
STEP	REMOVAL	PROCEDURE	FIGURE
1	Speaker	1. Net ..... (A1) x9 2. Front Panel ..... (A2) x9 3. Screw ..... (A3) x9	12-2 12-3 12-3

SPEAKER

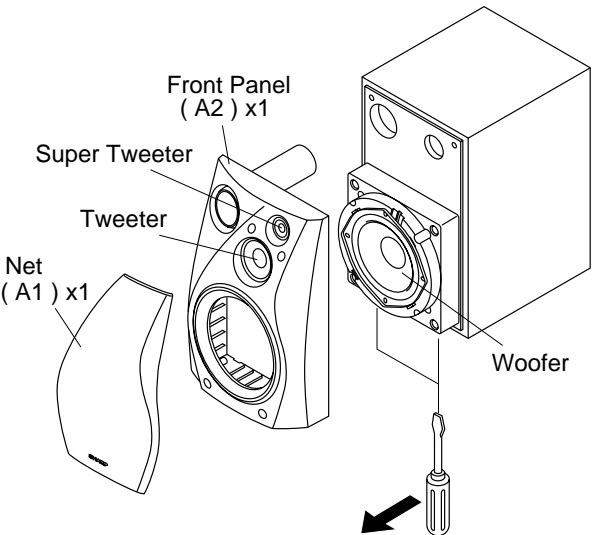


Figure 12-2

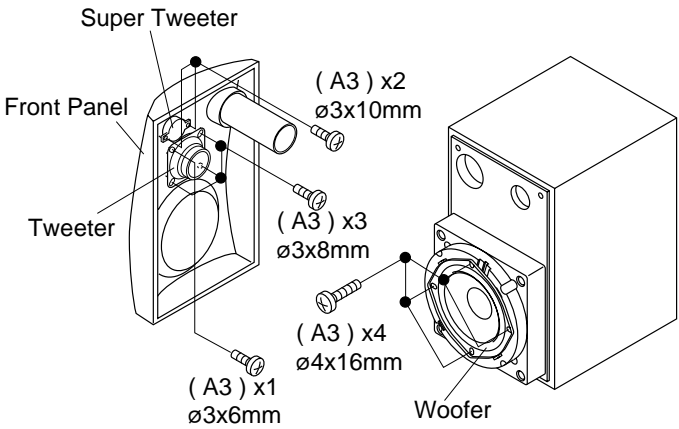


Figure 12-3

## REMOVING AND REINSTALLING THE MAIN PARTS

### MD MECHANISM SECTION

Perform steps 1 to 9, 21 and 23 of the disassembly method to remove the MD mechanism. (Referring to p.9~12)

#### How to remove the magnetic head (See Fig. 13-1)

1. Remove the screws (A1) x 1 pc.

##### Caution:

Take utmost care so that the magnetic head is not damaged when it is mounted.

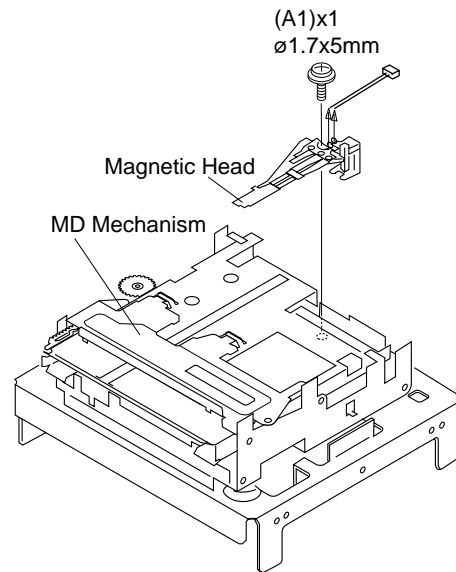


Figure 13-1

#### How to remove the cartridge holder (See Fig. 13-2)

1. Open the roller arm lever in the arrow direction, and lower the clamber lever to the rear side.
2. Apply +5V to the red line side of blue connector of loading motor, push the rack gear in the arrow direction to move the cam plate lever until tick is heard.
3. Remove the screw (B1) x 1 pc., and the spring (B2) x 1 pc., fitted to the holder arm, and shift the cartridge holder to the left side to remove it.

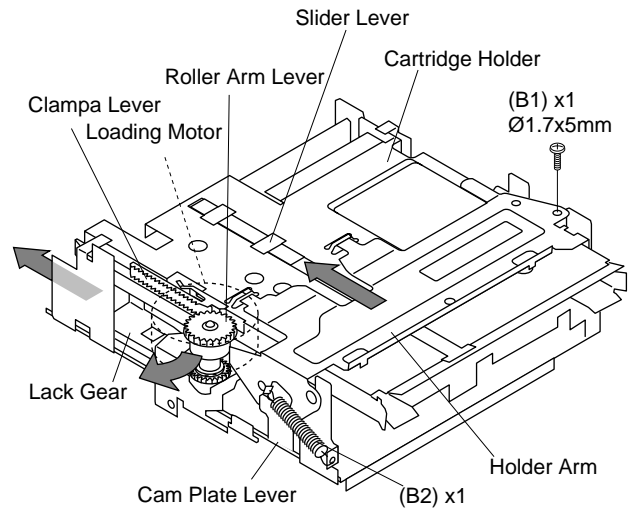


Figure 13-2

#### How to remove the mechanism switch PWB (See Fig. 13-3)

1. Remove the screws (C1) x 2 pcs., and remove the mechanism switch PWB.

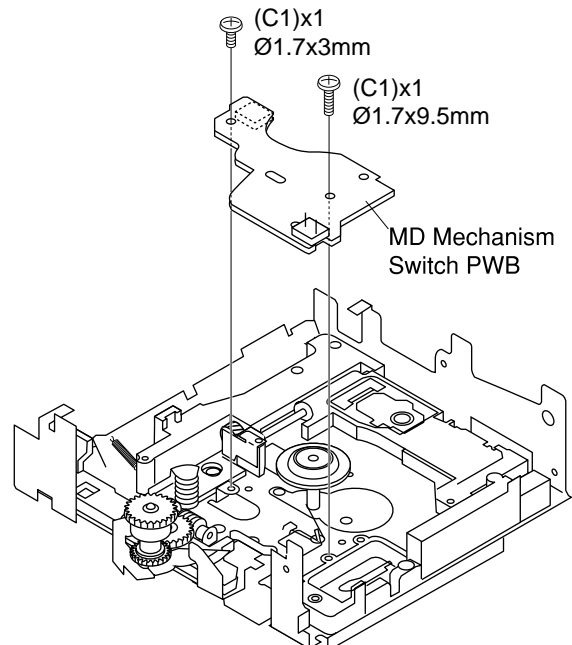


Figure 13-3

## MD-X60

### How to remove the sled motor/loading motor (See Fig. 14-1)

1. Remove the screws (D1) x 4 pcs., and remove the sled motor/loading motor.

**Caution:**

Be careful so that the gear is not damaged.  
(The damaged gear emits noise during searching.)

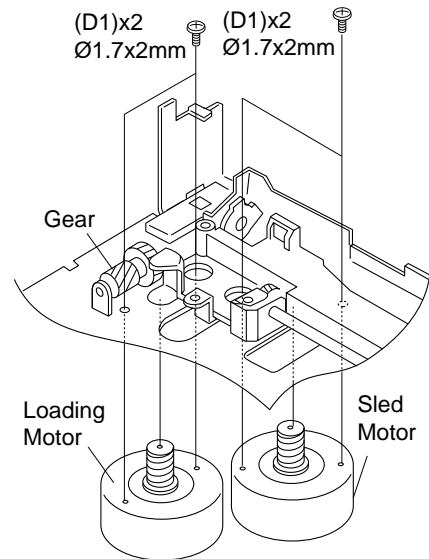


Figure 14-1

### How to remove the spindle motor (See Fig. 14-2)

1. Remove the screws (E1) x 3 pcs., and remove the spindle motor.

**Caution:**

Be careful so that the turntable is not damaged.

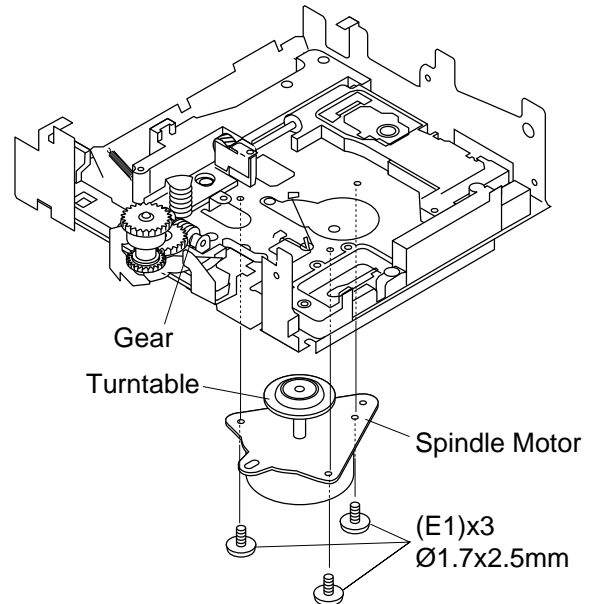


Figure 14-2

### How to remove the optical pickup (See Fig. 14-3)

1. Remove the screws (F1) x 3 pcs.

**Caution:**

Be careful so that the gear is not damaged.  
(The damaged gear emits noise during searching.)

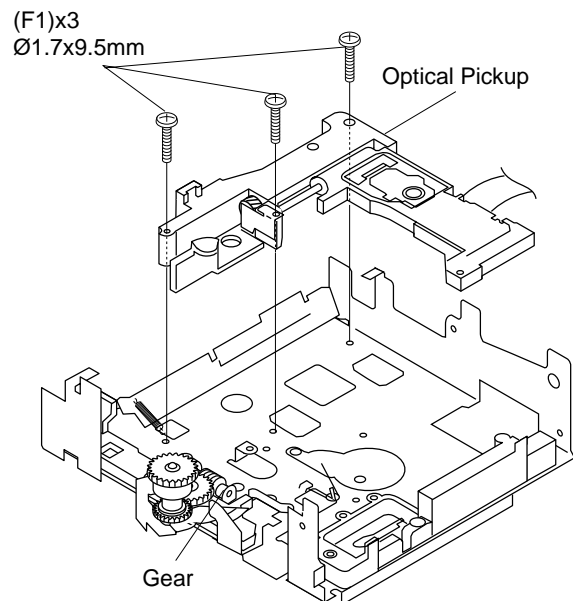


Figure 14-3



## CD MECHANISM SECTION

For the procedure to remove the CD mechanism from the main unit, refer to Disassembling Procedure, Steps 1~3, and 20. (p.9~11).

### How to Remove the optical pickup (See Fig. 15-1.)

1. Remove the screws (A1)x 2 pcs., to remove shaft (A2)x 1 pc.
2. Remove stop washer (A3)x 1 pc., to remove gear (A4)x 1 pc.
3. Remove the optical pickup.

#### Note:

After disconnecting the optical pickup connector wrap the front end of connector in conductive aluminum foil so as to prevent damage to the optical pickup by static electricity.

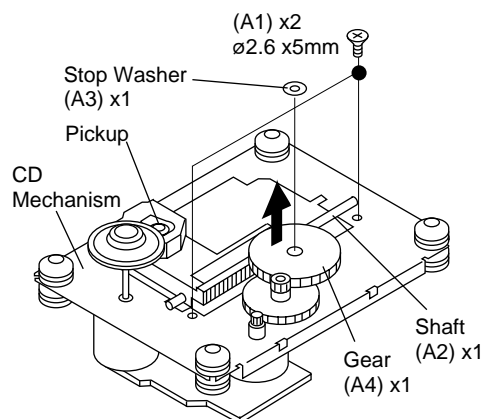


Figure 15-1

### How to Remove the tray motor/main cam motor (See Fig. 15-2.)

1. Remove the CD changer section by the method described in page 8, and disassemble as shown in the figure.
2. Remove the belts (B1)x 2 pcs., from the motor side.
3. Remove the screws (B2)x 4 pcs.
4. Remove the tray motor and main cam motor.

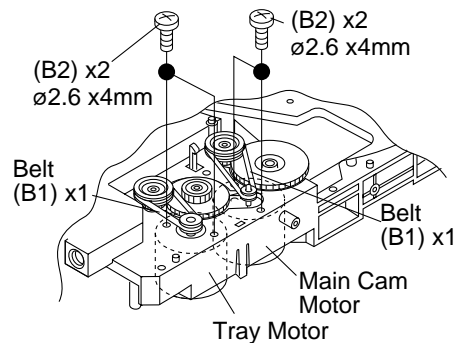
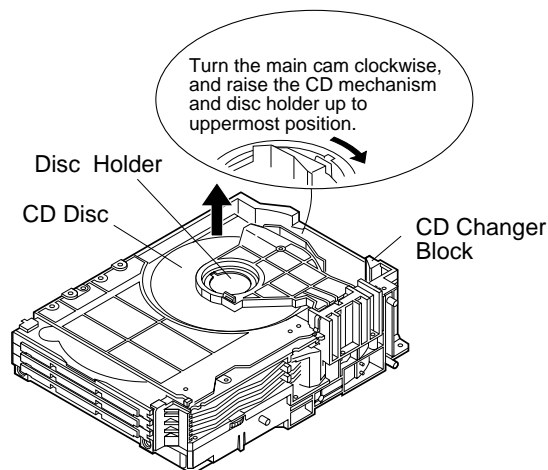


Figure 15-2

### How to remove the CD disc (When CD is in playback state) (See Fig. 15-3.)

1. Remove the cabinet and front panel.
2. Disassemble as shown in the figure so that the CD disc of CD changer becomes visible.
3. Remove the CD disc as shown in the figure.

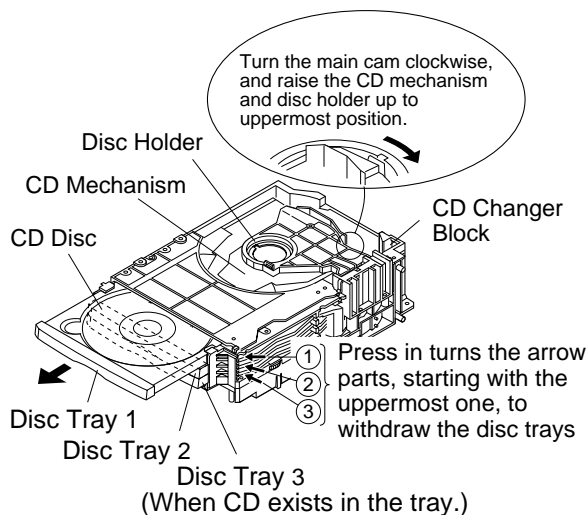


(When CD is in playback state.)

Figure 15-3

### How to remove the CD disc (When CD exists in the tray) (See Fig. 15-4.)

1. Remove the cabinet and front panel.
2. Disassemble as shown in the figure so that the CD disc of CD changer can be taken out.
3. Remove the CD disc from the tray as shown in the figure.



(When CD exists in the tray.)

Figure 15-4

ADJUSTMENT

TUNER SECTION

fL: Low-range frequency

fH: High-range frequency

• AM adjustment and confirmation

AM signal oscillator Frequency 400 Hz, 30%, AM modulation

Adjusting item	Adjusting object	Adjusting method
IF	Adjust the indication of T351 set to 1,720 kHz.	Set IF waveform 450 kHz to maximum.
Frequency cover (VT line voltage of pin 20 of IC302)	fL: T306 (530 kHz) Adjust the indication of set to 522 kHz.	fL: $1.1 \pm 0.1$ V fH: $5.1 \pm 1.3$ V of (Only confirmation)
Tracking	fL: T302 (990 kHz)	Set the output of speaker terminal to maximum.

• FM mute level adjustment

FM signal oscillator Frequency 400 Hz, 22.5 kHz

Frequency	Adjusting method	Adjusting object	Adjusting object
98 MHz	30 dB	VR351	Input: SO301 Output: Speaker Terminal

• TEST mode setting method

Holding down the ENTER button and TUNER (BAND) button, turn on the power. Frequency is set in the memory (initial setting) as shown in Table 16. Call the setting with the PRESET button to use it for tuner circuit adjustment or confirmation.

Preset No.	Frequency	Preset No.	Frequency
P01	87.5 MHz	P06	530 kHz
P02	108.0 MHz	P07	1,720 kHz
P03	90.0 MHz	P08	600 kHz
P04	106.0 MHz	P09	1,400 kHz
P05	98.0 MHz	P10	990 kHz

Table 16 Initial setting of memory

• Erasing the registered broadcast station

Holding down TRACK EDIT and ENTER in power-off state, press POWER.

All the registered stations are erased.

**Note:**

Even when the RESET switch provided at the rear side of this model, is pressed, the preset of tuner is not cleared.

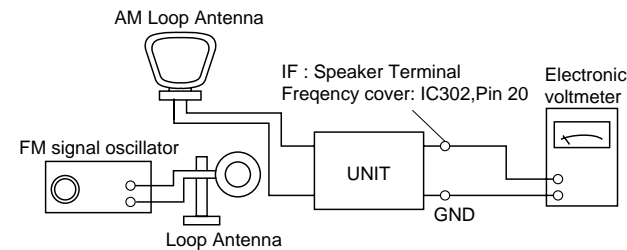


Figure 16-1 AM IF

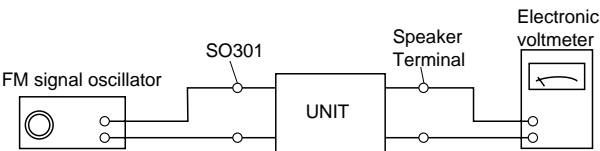


Figure 16-2 FM Mute Level

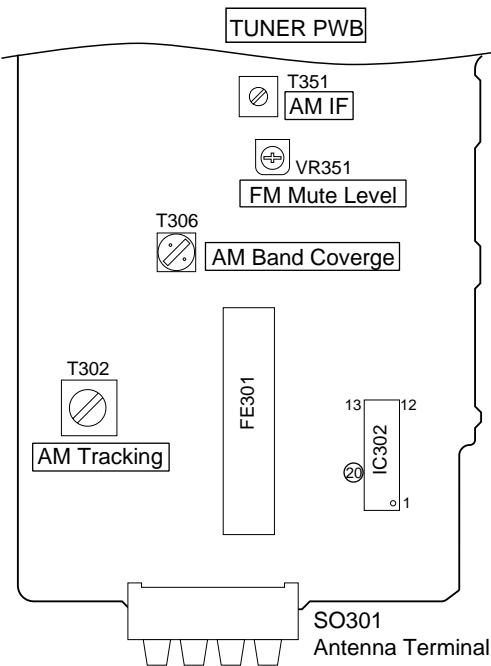


Figure 16-3 Adjustment Point

## TAPE SECTION

## Adjusting the mechanism

## Driving Force Check

<b>Torque Meter</b>	<b>Specified Value</b>
Play:TW-2412	120 g or more
Reverse Play:TW-2422	120 g or more

### Checking the playback/FF/rewinding torque

<b>Torque Meter</b>	<b>Specified Value</b>
Play:TW-2111	25 to 65 g.cm
Reverse Play:TW-2121	25 to 65 g.cm
Fast forward:TW-2231	60 to 130 g.cm
Rewind:TW-2231	60 to 130 g.cm

## Adjusting the record / playback head azimuth

Test Tape	Instrument Connection
MTT-114	Output: L:TP102 pin 3 R:TP102 pin 1

## Tape Speed

Test Tape	Adjusting Point	Specified Value	Instrument Connection
MTT-111	VR107	3,000±30Hz	L:TP102 pin 3 R:TP102 pin 1

\* Raise the cassette holder cover and remove it, and then adjust the azimuth.

## Adjusting the deck circuit

Position of each switch or control	
VOLUME	MAX
FUNCTION	TAPE
TAPE	NORMAL
DOLBY NR	OFF
REVERSE MODE	NORMAL
BEAT SW	A

### Checking the bias oscillation Frequency

Adjusting Point	Specified Value	Instrument Connection
-	102±7kHz	TP101(IC102 pin 3)

### Adjusting the record/playback frequency

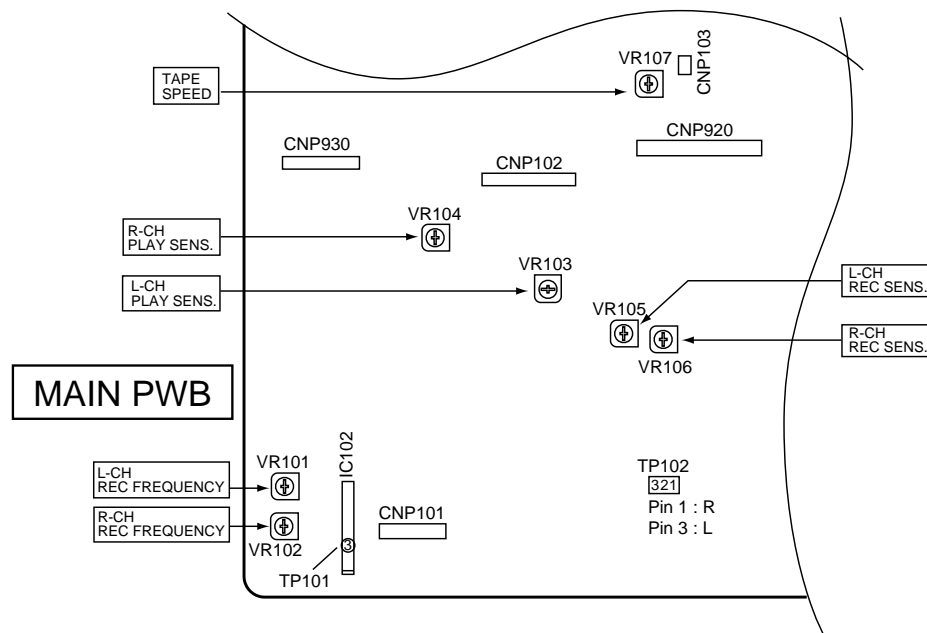
Test Tape	Adjusting Point	Specified Value	Instrument Connection
UR-121	Record level control	10mV	Input:AUX (10kHz)
	L:VR101 R:VR102	10mV	Output L:TP102 pin 3 R:TP102 pin 1

### Adjusting the playback amplifier sensitivity

Test Tape	Adjusting Point	Specified Value	Instrument Connection
MTT-150	L:VR103 R:VR104	Standard:300mV	L:TP102 pin 3 R:TP102 pin 1

### Adjusting the record/playback sensitivity

Test Tape	Adjusting Point	Specified Value	Instrument Connection
UR-121	Record level control	100mV	Input:AUX (1kHz)
	L:VR105 R:VR106	100mV	Output L:TP102 pin 3 R:TP102 pin 1



### Figure 17 Adjustment Point

## CD TEST MODE

### CD test mode setting

Any one of test mode can be set by pressing several buttons as follows.

Holding down VOL-UP and CD DISC 3 PLAY, turn on POWER. TEST: CD operation test

#### Test Mode

##### Function - CD TEST mode

Setting of Test mode

Indication of CD TEST mode

OPEN/CLOSE operation is manual operation.

The pickup can be moved with the (▶▶) or (◀◀) button.

Initialization is not performed.

<CD MD EDIT> ——— <TRACK> ——— <CD-STOP>

Tracking on the spot.

Tracking on the spot.

STOP

SERVO ON PLAY

SERVO OFF PLAY

<PLAY> button input - TOC. Initialization performed, and the ordinary PLAY is performed.

Press the <STOP> button. ——— Stop

If the following button is pressed during PLAY, it is possible to specify directly any Track No.

<Disc 1 PLAY> button: Track 4

<Disc 2 PLAY> button: Track 9

<Disc 3 PLAY> button: Track 15

#### Note:

Only in STOP state it is possible to slide the pickup with the (▶▶) or (◀◀) button.

Cancel method: POWER OFF

## CD SECTION

Since this CD system incorporates the following automatic adjusting function, when the pickup is replaced, it is not necessary to the readjust it.

Since this CD unit does not need adjustment, the combination of PWB and laser pickup unit is not restricted.

#### Automatic adjustment items

1. Focus Offset (Fig. 18-1)
2. Tracking Offset (Fig. 18-2)
3. E/F Balance (Tracking Error Balance) (Fig. 18-3)
4. R/F level AGC function (HF level: Constant)
5. RF level automatic follow-up of the tracking gain

This automatic adjustment is performed each time a disc is changed. Therefore, each disc is played back using the optimal settings.

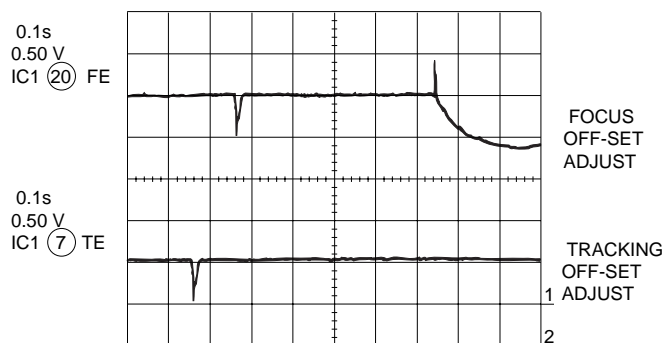


Figure 18-1

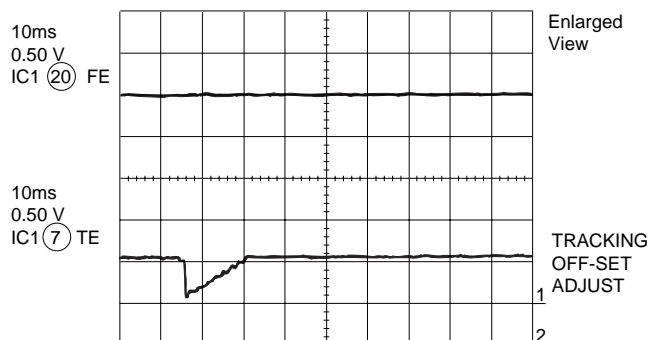


Figure 18-2

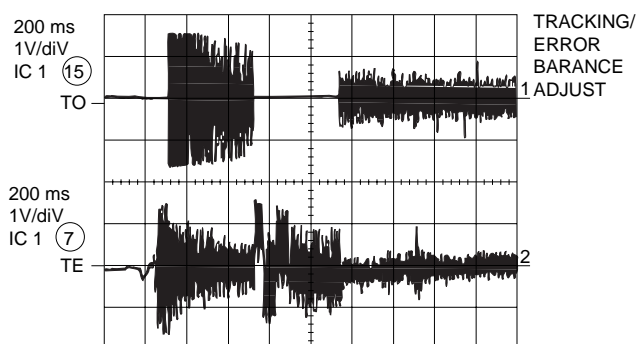


Figure 18-3

## MD SECTION

When the combination of mechanism/pickup and PWB was changed , set the TEST mode to perform the AUTO preliminary adjustment and AUTO adjustment, write the adjustment data in EEPROM.

When EEPROM was replaced, set the TEST mode, write the EEPROM set data (p28,p29) and then perform the preliminary adjustment and AUTO adjustment, write adjustment data in EEPROM.

### 1. Preparation for adjustment

#### Test disc

	Type	Test disc	Part No.
1	High reflection disc	TGYS1 (SONY) [for Playback]	RRCDT0101AFZZ
2	Low reflection disc	Recording minidisc	UDSKM0001AFZZ
3		Head Adjusting transparent [TEAC Test MD]	RRCDT0103AFZZ
4	Low reflection disc	Pre-adjustment disc	88GMMD-318

#### Extension Cable (See Fig. 19)

	Type	Part No.
1	Extension PWB for servicing	RUNTK0457AFZZ
2	Extension Connector (2 Pin)	QCNWK0059AFZZ
3	Extension Connector (6 Pin)	QCNWK0107AFZZ
4	Extension Cable (5 Pin)	QCNWK0109AFZZ
5	Extension Cable (28 Pin)	QCNWK0108AFZZ

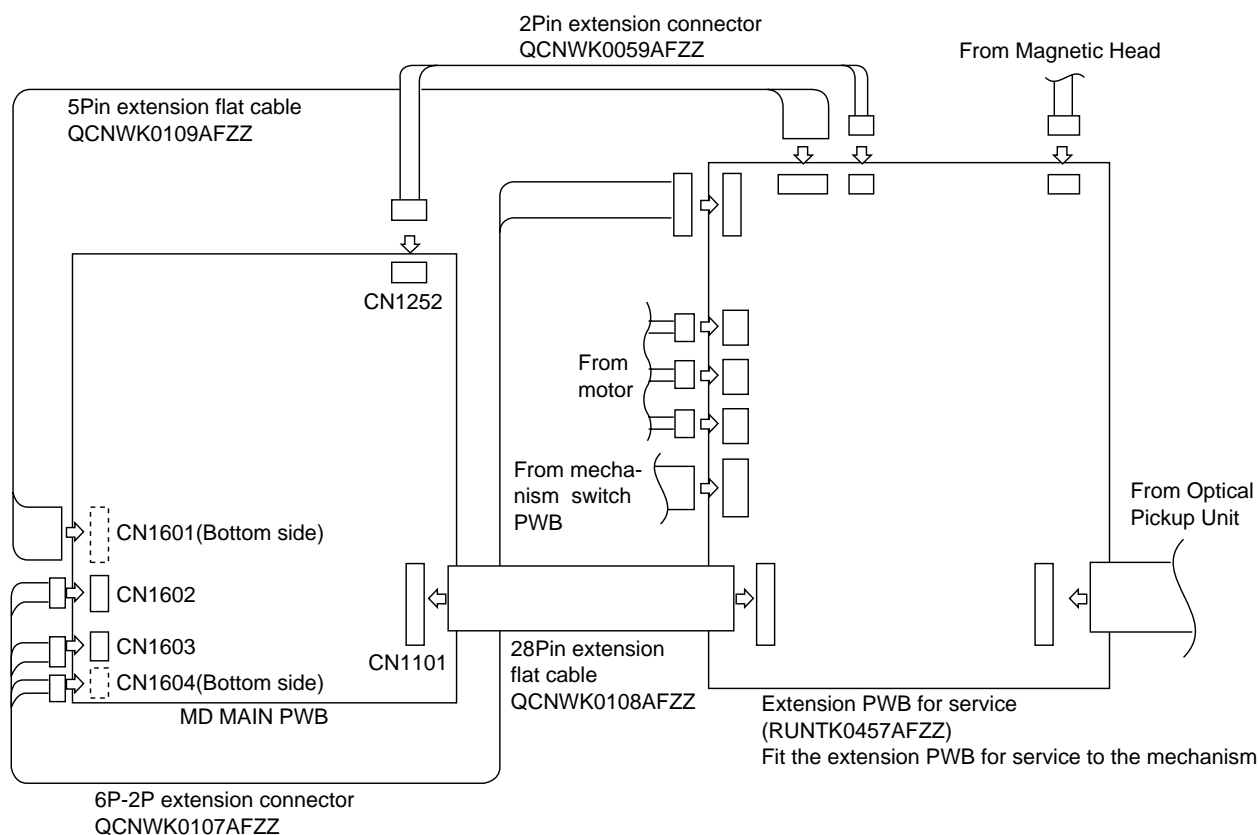


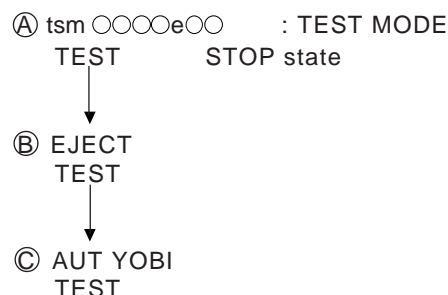
Figure 19 Connection of Extension Cable

# MD-X60

## 2. Test mode

### Test mode setting method

1. Holding down the POLE POSITION button and MD▶■ (PLAY/PAUSE) button, press the POWER button.  
(State ① is changed to state ②.)
2. Insert the playback disc 1 (high reflection disc) or recording disc 2 (low reflection disc). (State ③ is set.)  
Thus, the test mode state is set.

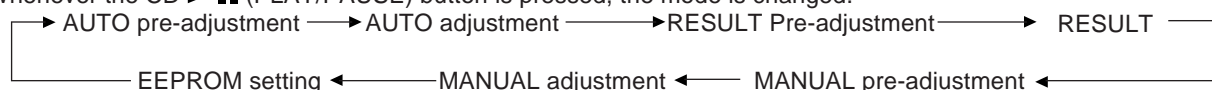


○○ represents version of MD microcomputer.

(When the MD■ (STOP) button is ressed in the ③ state, the indication ① is restored. To restore ③ again, press the CD▶■ (PLAY/ PAUSE) button.)

### Entering the specific mode

Whenever the CD ▶■ (PLAY/PAUSE) button is pressed, the mode is changed.



### Cancel of TEST mode

When the ENTER button is pressed, data is written in EEPROM, and then the TEST mode is canceled. (Mode where automatic adjustment is not performed)

To restore the usual state once reset.

When the data of EEPROM was changed or the preliminary adjustment was performed again, be sure to press the ENTER button to write data in the EEPROM.

(Data is written in the EEPROM by pressing the ENTER button.)

\* Be sure to ascertain "COMPLETION" by pressing the MD PLAY button in the AUTO preliminary adjustment mode before pressing the ENTER button.

### • Test Mode

1. EJECT mode	<ul style="list-style-type: none"> <li>• TEMP setting (of EEPROM setting)</li> <li>• CONTROL setting (of EEPROM setting)</li> <li>• Setting of laser power (record/playback power)</li> </ul>
2. AUTO pre-adjustment mode	<ul style="list-style-type: none"> <li>• Automatic pre-adjustment is performed. (After adjustment the grating adjustment mode is set.)</li> <li>• The adjustment value is output with the aid of system controller interface.</li> </ul>
3. AUTO adjustment mode	<ul style="list-style-type: none"> <li>• Automatic adjustment is performed.</li> <li>• The adjustment value is output with the aid of system controller interface.</li> <li>• Continuous playback is performed. (Error rate indication, jump test)</li> </ul>
<ul style="list-style-type: none"> <li>• RESULT sub-mode</li> <li>• RESULT mode (final adjustment)</li> <li>• MANUAL pre-adjustment mode</li> <li>• MANUAL adjustment mode</li> </ul>	<ul style="list-style-type: none"> <li>• Because the data of ROM is rewritten in this mode, set malfunction may occur. Therefore do not set this mode since it is not necessary for the service.</li> </ul>
4. EEPROM setting mode	<ul style="list-style-type: none"> <li>• Various coefficients of digital servo are changed manually.</li> </ul>
5. TEST-PLAY mode	<ul style="list-style-type: none"> <li>• Continuous playback from the specified address is performed.</li> <li>• C1 error rate measurement, ADIP error rate measurement.</li> </ul>
6. TEST-REC mode	<ul style="list-style-type: none"> <li>• Continuous recording from the specified address is performed.</li> </ul>
7. INNER mode	<ul style="list-style-type: none"> <li>• The position where the INNER switch is turned on is measured.</li> </ul>



**1. EJECT mode**

Step No.	Setting Method	Remarks	Display
Step 1	Testmode EJECT state		[ _ _ E J E C T _ _ _ ]
Step 2	Press once the CD STOP button.	Max. power output state	[ x p w _ _ _ _ _ ]
Step 3	Press once the CD STOP button.	Record power output state	[ r p w _ _ _ _ _ ]
Step 4	Press once the CD STOP button.	Playback power output state	[ p p w _ _ _ _ _ ]
Step 5	Press the CD ► MD EDIT button.	TEMP setting of EEPROM setting (Refer to TEMP setting of EEPROM)	
Step 6	Press the TRACK EDIT button.	CONTROL setting of EEPROM setting (Refer to CONTROL setting of EEPROM)	

**Confirmation of pickup laser power**

It is possible to confirm in the record/playback mode with the aid of laser power meter. However, since the laser power meter measurement is characterized with dispersion, obtained data are used only for confirmation.

Reference data (at room temperature 25°C)

Playback: 0.72±0.1 mV

Record: 5±1 mV

Note: Never see directly the laser light. Otherwise your eyes are injured.

**2. AUTO pre-adjustment mode (Low reflection disc only)**

With the pre-adjustment disc (MMD-318)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press once the CD PLAY button.	AUTO pre-adjustment menu	[ _ A U T _ Y O B I _ ]
Step 3	Press once the MD PLAY button.	The slide moves to the innermost periphery, and automatic pre-adjustment is started. • During automatic adjustment *** changes as follows. HAo→••••••••→LAO If adjustment is OK, Step 4. If adjustment is NG, Step 5.	[ *** : _ _ _ _ _ ]
	End of adjustment		
Step 4	Grating adjustment, adjustment value output Press once the MD STOP button.	STEP 2	[ _ C O M P L E T E _ ]
Step 5	Adjustment value output Press once the MD STOP button.	STEP 2 AUTO pre-adjustment menu	[ C a n ' t _ A D J . ]

• \*\*\* : Adjustment name

**3. AUTO adjustment mode**

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press the CD PLAY button two times.	AUTO adjustment menu	[ A U T O _ A J S T _ ]
Step 3	Press once the MD PLAY button.	The slide moves to the innermost periphery, and automatic adjustment is started. • In case of high reflection disc *** changes as follows. PEG→HAG • In case of low reflection disc *** changes as follows. PEG→LAG→GCG→GEG→LAG If adjustment is OK, Step 4. If adjustment is NG, Step 7.	[ *** : _ _ _ _ _ ]
	End of adjustment		
Step 4	Adjustment value output Press the MD PLAY button. Press the MD STOP button.	For grating adjustment STEP 5 STEP 2	[ _ C O M P L E T E _ ]
Step 5	Continuous playback (pit section) Continuous playback (groove section)	Confirmation of CI error	[ s □ □ □ c ○ ○ ○ ○ ] [ a □ □ □ c ○ ○ ○ ○ ]
Step 6	Press the CD STOP button. Press the MD STOP button.	Confirmation of ADP error STEP 2 AUTO adjustment menu	[ a □ □ □ a ○ ○ ○ ○ ]
Step 7	Adjustment value output Press the MD STOP button.	STEP 2 AUTO adjustment menu	[ C a n ' t _ A D J . ]

• \*\*\* : Adjustment name, ○ ○ : Measurement value, □ □ □ □ : Address

# MD-X60

## 4. EEPROM setting mode

### a) Focus setting

Step No.	Setting Method	Display
Step 1	Testmode STOP state	[ t s m○○○○ e○○ ]
Step 2	Press the CD PLAY button seventimes.	[ E E P R O M _ S E T ]
Step 3	Press once the MD PLAY button.	[ _ _ F o c u s _ _ ]
Step 4	Press once the MD PLAY button.	[ F G _ _ _ _ _ ◆◆ ]
Step 5	Press once the CD PLAY button.	[ F F 1 _ _ _ _ _ ◆◆ ]
Step 6	Press once the CD PLAY button.	[ F F 2 _ _ _ _ _ ◆◆ ]
Step 7	Press once the CD PLAY button.	[ F Z H L E V _ _ ◆◆ ]
Step 8	Press once the CD PLAY button.	[ F O K L E V n _ ◆◆ ]
Step 9	Press once the CD PLAY button.	[ F O K L E V f _ ◆◆ ]
Step 10	Press once the CD PLAY button.	[ F O K L P F n _ ◆◆ ]
Step 11	Press once the CD PLAY button.	[ F O K L P F f _ ◆◆ ]
Step 12	Press once the CD PLAY button.	[ W A I T f _ _ _ ◆◆ ]

◆◆ : Setting value

### b) Spindle setting

Step No.	Setting Method	Display
Step 1	Testmode STOP state	[ t s m○○○○ e○○ ]
Step 2	Press the CD PLAY button seven times.	[ E E P R O M _ S E T ]
Step 3	Press once the MD PLAY button.	[ _ _ F o c u s _ _ ]
Step 4	Press once the CD PLAY button.	[ _ S p i n d l e _ _ ]
Step 5	Press once the MD PLAY button.	[ S P G _ _ _ _ _ ◆◆ ]
Step 6	Press once the CD PLAY button.	[ S P G _ i n _ _ ◆◆ ]
Step 7	Press once the CD PLAY button.	[ S P G _ m i d _ ◆◆ ]
Step 8	Press once the CD PLAY button.	[ S P G _ o u t _ ◆◆ ]
Step 9	Press once the CD PLAY button.	[ S P 1 _ _ _ _ _ ◆◆ ]
Step 10	Press once the CD PLAY button.	[ S P 2 _ _ _ _ _ ◆◆ ]
Step 11	Press once the CD PLAY button.	[ S P 3 _ _ _ _ _ ◆◆ ]
Step 12	Press once the CD PLAY button.	[ S P 4 _ _ _ _ _ ◆◆ ]
Step 13	Press once the CD PLAY button.	[ S P 5 _ _ _ _ _ ◆◆ ]
Step 14	Press once the CD PLAY button.	[ S P D L I M _ _ ◆◆ ]

◆◆ : Setting value

### c) Tracking setting

Step No.	Setting Method	Display
Step 1	Testmode STOP state	[ t s m○○○○ e○○ ]
Step 2	Press the CD PLAY button seven times.	[ E E P R O M _ S E T ]
Step 3	Press once the MD PLAY button.	[ _ _ F o c u s _ _ ]
Step 4	Press the CD PLAY button two times.	[ _ T r a c k i n g _ ]
Step 5	Press once the MD PLAY button.	[ T G _ _ _ _ _ ◆◆ ]
Step 6	Press once the CD PLAY button.	[ T F 1 _ _ _ _ _ ◆◆ ]
Step 7	Press once the CD PLAY button.	[ T F 2 _ _ _ _ _ ◆◆ ]
Step 8	Press once the CD PLAY button.	[ S V C N T 4 _ _ ◆◆ ]
Step 9	Press once the CD PLAY button.	[ T R B L V 0 _ _ ◆◆ ]
Step 10	Press once the CD PLAY button.	[ T R B L V t _ _ ◆◆ ]
Step 11	Press once the CD PLAY button.	[ T R K L V 0 _ _ ◆◆ ]
Step 12	Press once the CD PLAY button.	[ T R K L V t _ _ ◆◆ ]
Step 13	Press once the CD PLAY button.	[ T D P W o _ _ _ ◆◆ ]
Step 14	Press once the CD PLAY button.	[ T D P W t _ _ _ ◆◆ ]

## c) Tracking setting

Step No.	Setting Method	Display
Step 15	Press once the CD PLAY button.	[ S L C T 0 _ _ _ ◆◆ ]
Step 16	Press once the CD PLAY button.	[ S L C T t _ _ _ ◆◆ ]
Step 17	Press once the CD PLAY button.	[ S L C T m _ _ ◆◆ ]
Step 18	Press once the CD PLAY button.	[ T C R S C 1 P _ ◆◆ ]
Step 19	Press once the CD PLAY button.	[ C O T L V P _ ◆◆ ]
Step 20	Press once the CD PLAY button.	[ C O T L V r _ ◆◆ ]
Step 21	Press once the CD PLAY button.	[ W A I T m _ _ ◆◆ ]

◆◆ : Setting value

## d) Slide setting

Step No.	Setting Method	Display
Step 1	Testmode STOP state	[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press the CD PLAY button seven times.	[ E E P R O M _ S E T ]
Step 3	Press once the MD PLAY button.	[ _ _ F o c u s _ _ ]
Step 4	Press the CD PLAY button three times.	[ _ _ _ S l e d _ _ ]
Step 5	Press once the MD PLAY button.	[ S L G _ _ _ _ ◆◆ ]
Step 6	Press once the CD PLAY button.	[ S L 2 _ _ _ _ ◆◆ ]
Step 7	Press once the CD PLAY button.	[ S L D L I M _ _ ◆◆ ]
Step 8	Press once the CD PLAY button.	[ S L D L E V _ _ ◆◆ ]
Step 9	Press once the CD PLAY button.	[ S L K L V k _ _ ◆◆ ]
Step 10	Press once the CD PLAY button.	[ S L K L V t _ _ ◆◆ ]
Step 11	Press once the CD PLAY button.	[ S L K L V m _ _ ◆◆ ]

◆◆ : Setting value

## e) TEMP setting

Step No.	Setting Method	Display
Step 1	EJECT state (or mechanism-less state)	[ _ _ E J E C T _ _ ]
Step 2	Press the CD ► MD EDIT button.	[ T E M P _ ○ ○ _ ◆◆ ]

◆◆ : Setting value, ○○ : Measurement value

## f) CONTROL setting

Step No.	Setting Method	Display
Step 1	Testmode STOP state	[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press the CD PLAY button seven times.	[ E E P R O M _ S E T ]
Step 3	Press once the MD PLAY button.	[ _ _ F o c u s _ _ ]
Step 4	Press the CD PLAY button five times.	[ _ C o n t r o l _ _ ]
Step 5	Press once the MD PLAY button.	[ C O N T R L 1 _ ◆◆ ]
Step 6	Press once the CD PLAY button.	[ C O N T R L 2 _ ◆◆ ]
Step 7	Press once the CD PLAY button.	[ S P K L E V m _ ◆◆ ]
Step 8	Press once the CD PLAY button.	[ A D J T T M _ _ ◆◆ ]
Step 9	Press once the CD PLAY button.	[ H D E Q A D _ _ ◆◆ ]
Step 10	Press once the CD PLAY button.	[ L D E Q A D _ _ ◆◆ ]
Step 11	Press once the CD PLAY button.	[ G D E Q A D _ _ ◆◆ ]
Step 12	Press once the CD PLAY button.	[ H D E Q B C _ _ ◆◆ ]
Step 13	Press once the CD PLAY button.	[ L D E Q B C _ _ ◆◆ ]
Step 14	Press once the CD PLAY button.	[ G D E Q B C _ _ ◆◆ ]
Step 15	Press once the CD PLAY button.	[ H A L S G _ _ _ ◆◆ ]
Step 16	Press once the CD PLAY button.	[ L A L S G _ _ _ ◆◆ ]
Step 17	Press once the CD PLAY button.	[ G A L S G _ _ _ ◆◆ ]
Step 18	Press once the CD PLAY button.	[ H A L S O F S _ _ ◆◆ ]
Step 19	Press once the CD PLAY button.	[ L A L S O F S _ _ ◆◆ ]
Step 20	Press once the CD PLAY button.	[ G A L S O F S _ _ ◆◆ ]

◆◆ : Setting value

## G) ADJUST setting

Step No.	Setting Method	Display
Step 1	Testmode STOP state	[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press the CD PLAY button seven times	[ E E P R O M _ S E T ]
Step 3	Press once the MD PLAY button.	[ _ _ F o c u s _ _ _ ]
Step 4	Press the CD PLAY button six times.	[ A D J U S T _ _ _ ]
Step 5	Press once the MD PLAY button.	[ C O K _ _ _ _ ◆◆ ]
Step 6	Press once the CD PLAY button.	[ F A T _ _ _ _ ◆◆ ]
Step 7	Press once the CD PLAY button.	[ T A T _ _ _ _ ◆◆ ]
Step 8	Press once the CD PLAY button.	[ C A T _ _ _ _ ◆◆ ]
Step 9	Press once the CD PLAY button.	[ F A B _ _ _ _ ◆◆ ]
Step 10	Press once the CD PLAY button.	[ S T R _ _ _ _ ◆◆ ]
Step 11	Press once the CD PLAY button.	[ S F S _ _ _ _ ◆◆ ]
Step 12	Press once the CD PLAY button.	[ S T C _ _ _ _ ◆◆ ]

◆◆ : Setting value

## 5. TEST-PLAY mode

(For confirmation of the playback ability at the named address.)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press the CD ► MD EDIT button.	TEST-PLAY menu	[ T E S T _ P L A Y _ ]
Step 3	Press once the CD STOP button. Press once the MD PLAY button.	ADRES setting (Target address initial value is indicated)	[ A D R E S _ 0 0 5 0 ]
Step 4	Continuous playback (pit section) Continuous playback (groove section)	(Address + C1 error indication) (Address + C1 error indication)	[ s □ □ □ □ c ○ ○ ○ ○ ] [ a □ □ □ □ c ○ ○ ○ ○ ]
Step 5	Press once the CD STOP button. Continuous playback (groove section)	(Address + ADIP error indication)	[ a □ □ □ □ a ○ ○ ○ ○ ]
Step 6	Press once the MD STOP button.	TEST-PLAY menu	[ T E S T _ P L A Y _ ]

- If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the MD PLAY button is pressed while the TEST-PLAY menu is displayed, continuous playback is started from the current pickup position.
- Whenever the CD ► MD EDIT button is pressed in the address setting mode, the address changes as follows.  
0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 → .....
- Whenever the CD STOP button is pressed in the address setting mode, the digit which is changed with - ◀◀ / ▶▶ + changes as follows.  
0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 → .....
- The digit of address which has been specified with - ◀◀ / ▶▶ + and CD STOP button in the address setting mode is set to +01H/-01H.(0~F)  
\* If the - ◀◀ / ▶▶ + button is held down, the setting changes continuously with 100 ms cycle.

## 6. TEST-REC mode

With recording mini disk (For confirmation of the playback ability at the named address.)

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press the CD ► MD EDIT button.	TEST-REC menu	[ T E S T _ R E C _ _ ]
Step 3	Press once the CD STOP button.	ADRES setting (indication of address initial value)	[ a 0 0 5 0 _ p w ▽ ▽ ]
Step 4	Press once the MD PLAY button.	While searching, set the search output to "H". To start continuous play, return it to "L". Continuous recording	[ a □ □ □ □ p w ▽ ▽ ]
Step 5	Press once the MD STOP button.	TEST-REC menu	[ T E S T _ R E C _ _ ]

- If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the MD PLAY button is pressed while the TEST-REC menu is displayed, continuous record is started from the current pickup position.
- Whenever the CD ► MD EDIT button is pressed in the address setting mode, the address changes as follows.  
0 0 5 0 → 0 3 C 0 → 0 7 0 0 → 0 8 A 0 → 0 0 5 0 → .....
- Whenever the CD STOP button is pressed in the address setting mode, the digit which is changed with - ◀◀ / ▶▶ + changes as follows.  
0 0 5 0 → 0 0 5 0 → 0 0 5 0 → 0 0 5 0 → .....
- The digit of address which has been specified with - ◀◀ / ▶▶ + and CD STOP button in the address setting mode is set to +01H/-01H.(0~F)  
\* If the - ◀◀ / ▶▶ + button is held down, the setting changes continuously with 100 ms cycle.
- Be sure to remove since excessive raising results in breakage of the pickup.

## 7. INNER mode

Step No.	Setting Method	Remarks	Display
Step 1	Testmode STOP state		[ t s m ○ ○ ○ ○ e ○ ○ ]
Step 2	Press the TRACK EDIT button.	INNER menu	[ _ _ I N N E R _ _ ]
Step 3	Press once the MD PLAY button.	INNER switch position measurement (SUBQ address and C1 error are also indicated.)	[ s □ □ □ □ c ○ ○ ○ ○ ]
Step 4	Press once the MD STOP button.	INNER menu	[ _ _ I N N E R _ _ ]

• □ □ □ □ : Address

### ● Lead-in switch position measurement mode

Insert High reflection test disk (TGYS1)

Note: Adjust the lead-in switch position to FF85 to FFD2.

1. Loosen the screw (A) x 2 pcs. which fix the mechanism switch PWB.
2. Retighten the screw, pressing the mechanism switch PWB in the arrow direction, and then measure the lead-in switch position again.

After position adjustment fix with the two screws (A). (See Fig. 25-1.)

Note: After tightening the two screws on the PWB apply Screw Lock.

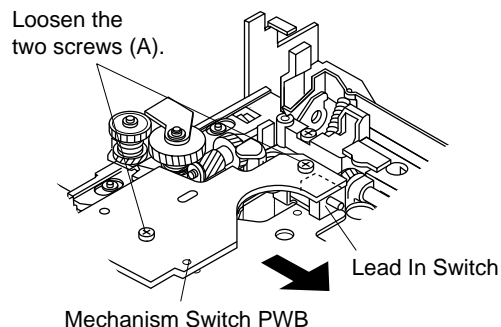


Figure 25-1

### ● Forced rotation of loading motor

While the display indication is test mode STOP state or EJECT state, the loading motor can be forcibly rotated by press the VOL UP/DOWN button.

### ● Adjustment of magnetic head mounting position

When the magnetic head and optical pickup have been replaced, be sure to adjust the mounting position.

For easier adjustment of mounting position move the optical pickup to the center position, and then adjust the position.

1. Set the adjusting transparent disc 3.
2. Lower the magnetic head up-shift arm with your finger, and raise the magnetic head.
3. Viewing the set from above, make an adjustment so that the magnetic head aligns with the optical pickup objective lens.
4. Make sure that there is a clearance as shown in Figure 25-2 and the magnetic head moves up and down smoothly.

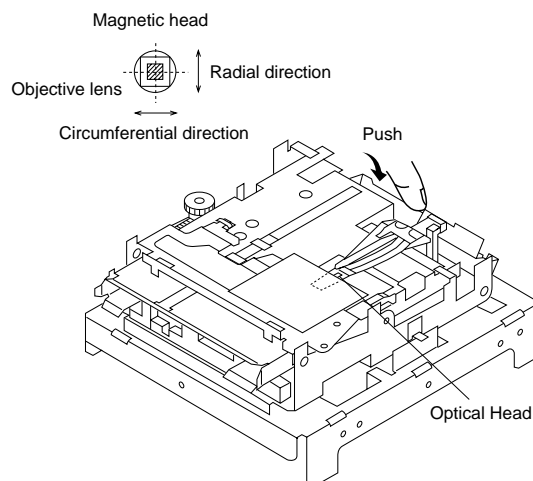


Figure 25-2

### ● Mechanism Adjustment

#### 1. Optical pickup grating inspecting method

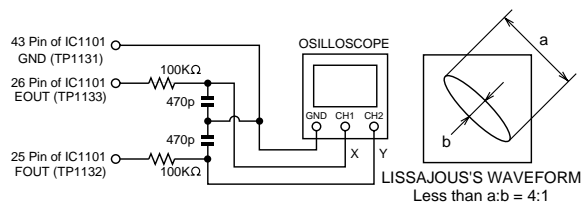


Figure 25-3 Optical Pickup Grating Deviation Measuring Method

After the automatic adjustment is performed in the AUTO mode (test mode) with the aid of high reflection MD disc ("COMPLATE" is displayed), the Lissajous's waveform (x-y) is adjusted.

1. Slightly loosen the 3 screws of spindle moto, and maken an adjustment, observing the Lissajous's waveform.
2. After adjustment tighten the screw in arder of ① , ② , ③ .

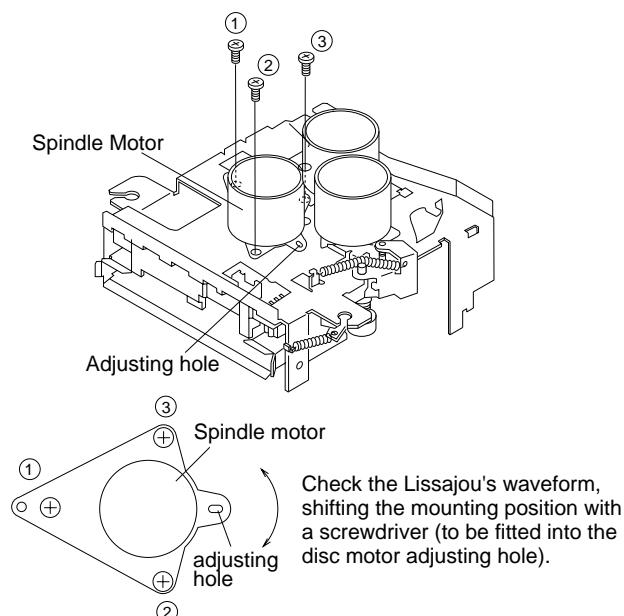


Figure 25-4

## EXPLANATION OF ERROR DISPLAY

Error display	Errors	Corrective action
Can't REC	<ul style="list-style-type: none"> <li>Defect occurred successively 10 times during REC-PLAY.</li> <li>As a result of occurrence of defect during REC-PLAY the recordable cluster became zero.</li> <li>Address is unreadable. REC state cannot be set for 20 seconds although retry is repeated.</li> </ul>	<ul style="list-style-type: none"> <li>Check that the disc is free from flaw, dust and fingerprint. Check whether there is any black spot. Check for disc disalignment and run-out.</li> </ul>
Can't COPY	<ul style="list-style-type: none"> <li>The following judgement is made according to the channel status of digital signal which was input from D-IN during REC-PAUSE or REC-PLAY.               <ol style="list-style-type: none"> <li>Other than audio signal</li> <li>Other than signals of home-use appliances</li> <li>Copy NG due to inversion of copy bit in CD.</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Check whether CD is copy-inhibited one. (An example: CD-R)</li> </ul>
Din UNLOCK	<ul style="list-style-type: none"> <li>The digital signal which was input from D-IN during REC-PAUSE, REC-PLAY or CD FUNC playback caused the following.               <ol style="list-style-type: none"> <li>PLL of digital IN was unlocked.</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Check whether there is any abnormality in the D-IN signal line.</li> </ul>
TOC FULL	<ul style="list-style-type: none"> <li>There were no areas to record music or character information.(music name, disc name, etc.) during REC-PLAY.</li> </ul>	<ul style="list-style-type: none"> <li>Replace the disc with a recording/ playback disc in which an area to register UTOC remains.</li> </ul>
UTOC ERR R	<ul style="list-style-type: none"> <li>ETNO &gt; LTNO</li> <li>FTNO 0 or 1</li> <li>UTOC recorded on disc could not be read.</li> </ul>	<ul style="list-style-type: none"> <li>UTOC data is not normal. Replace the disc with other disc.</li> </ul>
UTOC ERR A	<ul style="list-style-type: none"> <li>Start address &gt; End address</li> </ul>	<ul style="list-style-type: none"> <li>UTOC data is not normal. Replace the disc with other disc.</li> </ul>
UTOC ERR L0~4	<ul style="list-style-type: none"> <li>Any data of UTOC 0 to 4 looped.</li> </ul>	<ul style="list-style-type: none"> <li>UTOC data is not normal. Replace the disc with other disc.</li> </ul>
NOT AUDIO	<ul style="list-style-type: none"> <li>Nonaudio data was recorded in the track mode of currently selected TNO.</li> </ul>	<ul style="list-style-type: none"> <li>Select other TNO or replace the disc with other disc.</li> </ul>
? DISC	<ul style="list-style-type: none"> <li>Data "MINI" of system ID which has been written in TOC with ASCII code is not correct.</li> <li>The disc type written in TOC does not correspond to pre-mastered MD, recording MD and hybrid MD.</li> </ul>	<ul style="list-style-type: none"> <li>The loaded disc is not applicable. Replace the disc, and check.</li> </ul>
DISC FULL	<ul style="list-style-type: none"> <li>When an attempt to set REC-PAUSE was made, there were no recordable areas.</li> </ul>	<ul style="list-style-type: none"> <li>Replace the disc with other recording disc in which recording area remains.</li> </ul>
PLAYBACK MD	<ul style="list-style-type: none"> <li>An attempt to set REC-PAUSE or to start editing was made on the playback-only disc.</li> </ul>	<ul style="list-style-type: none"> <li>The loaded disc is a Playback-only disc. Replace the disc with a recording disc.</li> </ul>
PROTECT	<ul style="list-style-type: none"> <li>As a result of occurrence of failure in the power amplifier circuit stage the power supply is turned off, and the "PROTECT" error display blinks.</li> </ul>	<ul style="list-style-type: none"> <li>Check, applying the trouble-shooting described Page 69.</li> </ul>
PROTECTED	<ul style="list-style-type: none"> <li>An attempt to record or edit was made on the record/playback disc with its careless erase preventing tab being in erase preventing state.</li> <li>An attempt was made to edit the track which was write-protected by information written in UTOC.</li> </ul>	<ul style="list-style-type: none"> <li>Return the careless erase preventing tab to its initial position, and redo.</li> <li>The track on which an attempt to edit was made is a write-protected track. Redo on another track.</li> </ul>
Can't EDIT	<ul style="list-style-type: none"> <li>Specific editing conditions were not satisfied.</li> </ul>	<ul style="list-style-type: none"> <li>The applied operation procedure is not proper. Redo, applying the correct procedure.</li> </ul>
TEMP OVER	<ul style="list-style-type: none"> <li>Owing to occurrence of some trouble internal temperature of set (MD unit) rose excessively.</li> </ul>	<ul style="list-style-type: none"> <li>Check by troubleshooting.</li> <li>Check whether the ambient temperature is too high.</li> </ul>
DISC ERR RD PA WR	<ul style="list-style-type: none"> <li>Read data was not correct or data could not be read correctly.</li> <li>Trouble occurred during recording if music data, resulting in record failure.</li> </ul>	<ul style="list-style-type: none"> <li>Data of TOC or UTOC is not normal or disc has flaw. Replace the disc with other disc.</li> </ul>
TOC ERR S TOC ERR R TOC ERR T	<ul style="list-style-type: none"> <li>TOC was read but data was not correct.</li> <li>TOC could not be read.</li> </ul>	<ul style="list-style-type: none"> <li>The TOC information recorded on disc does not conform to the MD standard. Replace the disc with other disc.</li> <li>The disc has flaw. Replace the disc with other disc.</li> </ul>
UTOC W ERR	<ul style="list-style-type: none"> <li>Trouble occurred during rewriting of UTOC, resulting in UTOC rewriting failure.</li> </ul>	<ul style="list-style-type: none"> <li>The disc has flaw. Replace the disc with other disc.</li> </ul>
FOCUS ERROR	<ul style="list-style-type: none"> <li>After the disc was loaded, focusing failure occurred.</li> </ul>	<ul style="list-style-type: none"> <li>Check that the disc is free from flaw, dust, fingerprint and black spot. Check for disc disalignment and run-out.</li> </ul>



Error display	Errors	Corrective action
BLANK MD	• UTOC was read but total TNO and the number of characters of NAME was 0?	• Perform recording to check that the disc is recordable disc.
DETECT	• Focusing error was caused by shock during REC-PLAY.	• Check that the disc is free from flaw, dust, fingerprint and black spot. Check for disc disalignment and run-out.
TOC W ERROR	• Although UTOC can be read but UTOC cannot be rewritten.	• Check that the record head contact is normal. Check that there is no broken wire between PWB and the recording head.
MD ERROR	• Data of EEPROM is not correct.	• Perform adjustment • Once reset, and redo. If error occurs persistently, replace EEPROM.

## EXPLANATION OF MECHANISM ERROR

Error display	Errors
MECHA_ERR1_* MECHA_ERR2_* MECHA_ERR3_*	Ejection failure Head-up failure Head-down failure

HINF (IC1401 97 PIN)

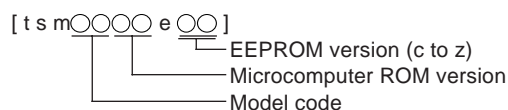
* = E Ejection completion position	< 1.3 V
* = MHorizontal midway position	> 3.06 V
* = L Load completed position	1.853~2.48 V
* = DHead-down position	1.3~1.853 V

# MD-X60

## ● EEPROM (IC1402) writing procedure

### 1. Procedure to replace EEPROM and to write the initial value of microcomputer in EEPROM

- (1) Replace EEPROM.
- (2) Refer to the latest EEPROM data list.
- (3) Hold down the ►► button and MD PLAY button, and press the POWER button to enter the test mode.
- (4) Indication of version.



- (5) Set the temperature reference value.  
(Refer to "Temperature reference setting procedure".)
- (6) Press the CD PLAY key 7 times.  
[ E E P R O M S E T ]
- (7) Perform the operation shown in the "EEPROM setting mode chart", compare the indication with the EEPROM data list, and make a setting according to the EEPROM data list, using [JOG DIAL UP] or [JOG DIAL DOWN]
- (8) The setting must conform to the EEPROM data list.
- (9) Turn off power supply to write in EEPROM.

### 2. Temperature reference value setting procedure (to be executed at room temperature within 21 to 29°C)

- (1) Test mode eject state

Ambient temperature	correction
+ 21.0 °C ~ + 22.3 °C	-0 1 H
+ 22.3 °C < + 26.3 °C	± 0 H
+ 26.3 °C < + 29.0 °C	+0 1 H

An example: When ambient temperature is 22°C and measured temperature is 73H

Temperature setting = 73 H - 01 H  
= 72 H

\* When the measured temperature fluctuates between two values, take lower one (if temperature fluctuates between 73H and 72H, take 72H).

- (2) Press the CD PLAY button 7 times.  
[ E E P R O M S E T ]
- (3) Press the MD PLAY button 7 times.  
[ F O C U S ]
- (4) Press the CD PLAY button 4 times.  
[ T e m p ]
- (5) Press once the MD PLAY button.  
[ T E M P 0 0 ◆◆ ]  
0 0 : Measured temperature, ◆◆ : Temperature setting
- (6) Set temperature to the value determined above, using [JOG DIAL UP] or [JOG DIAL DOWN]
- (7) Press the MD STOP button.  
[ T e m p ]
- (8) Write in EEPROM by pressing ENTER button

## • Temperature code check

The temperature code is read after automatic adjustment. If it is within the range shown below, the adjustment is OK.

Ambient temperature	temperature code
+ 19.6 °C ~ + 30.7 °C	0 6
+ 8.7 °C ~ + 19.6 °C	0 7

## EEPROM DATA LIST

### Focus setting

Item indication	Setting
F G 0 0	D 0 H
F F 1 0 0	9 E H
F F 2 0 0	E 0 H
F Z H L E V 0 0	E D H
F O K L E V n 0 0	0 8 H
F O K L E V f 0 0	0 8 H
F O K L P F n 0 0	0 0 H
F O K L P F f 0 0	8 8 H
W A I T f 0 0	9 0 H

### Spin setting

Item indication	Setting
S P G 0 0	2 0 H
S P G — i n 0 0	8 8 H
S P G — m i d 0 0	7 6 H
S P G — o u t 0 0	5 8 H
S P 1 0 0	1 0 H
S P 2 0 0	8 7 H
S P 3 0 0	E 3 H
S P 4 0 0	E 3 H
S P 5 0 0	1 0 H
S P D L I M 0 0	7 8 H

### Temp setting

Item indication	Setting
T E M P 0 0	7 3 H

### Tracking setting

Item indication	Setting
T G 0 0	S F H
T F 1 0 0	7 0 H
T F 2 0 0	E 0 H
S V C N T 4 0 0	0 1 H
T R B L V o 0 0	5 3 H
T R B L V t 0 0	6 0 H
T R K L V o 0 0	4 C H
T R K L V t 0 0	3 8 H
T D P W o 0 0	8 9 H
T D P W t 0 0	1 A H
S L C T o 0 0	0 0 H
S L C T t 0 0	4 0 H
S L C T m 0 0	5 3 H
T C R S C I P 0 0	1 6 H
C O T L V P 0 0	1 4 H
C O T L V r 0 0	2 8 H
W A I T m 0 0	F F H

## Slide setting

Item indication	Setting
SLG ○○	35 H
SL2 ○○	27 H
SLDLIM ○○	65 H
SLDLEV ○○	16 H
SLKLVk ○○	55 H
SLKLVt ○○	3A H
SLKLVm ○○	55 H

## ADJUST setting

Item indication	Setting
COK ○○	A0 H
FAT ○○	C0 H
TAT ○○	3E H
CAT ○○	20 H
FAB ○○	64 H
STR ○○	0A H
SFS ○○	0D H
STC ○○	0D H

## Control setting

Item indication	Setting
CONTRL1 ○○	80 H
CONTRL2 ○○	03 H
SPKLEVm ○○	26 H
ADJTMM ○○	14 H
HDEQAD ○○	90 H
LDEQAD ○○	8F H
GDEQAD ○○	91 H
MDEQBC ○○	90 H
LDEQBC ○○	8F H
GDEQBC ○○	8A H
HALSG ○○	21 H
LALSG ○○	21 H
GALSG ○○	21 H
HALSOFs ○○	FE H
LALSOFs ○○	00 H
GALSOFs ○○	00 H

## ● EEPROM Setting Mode Chart

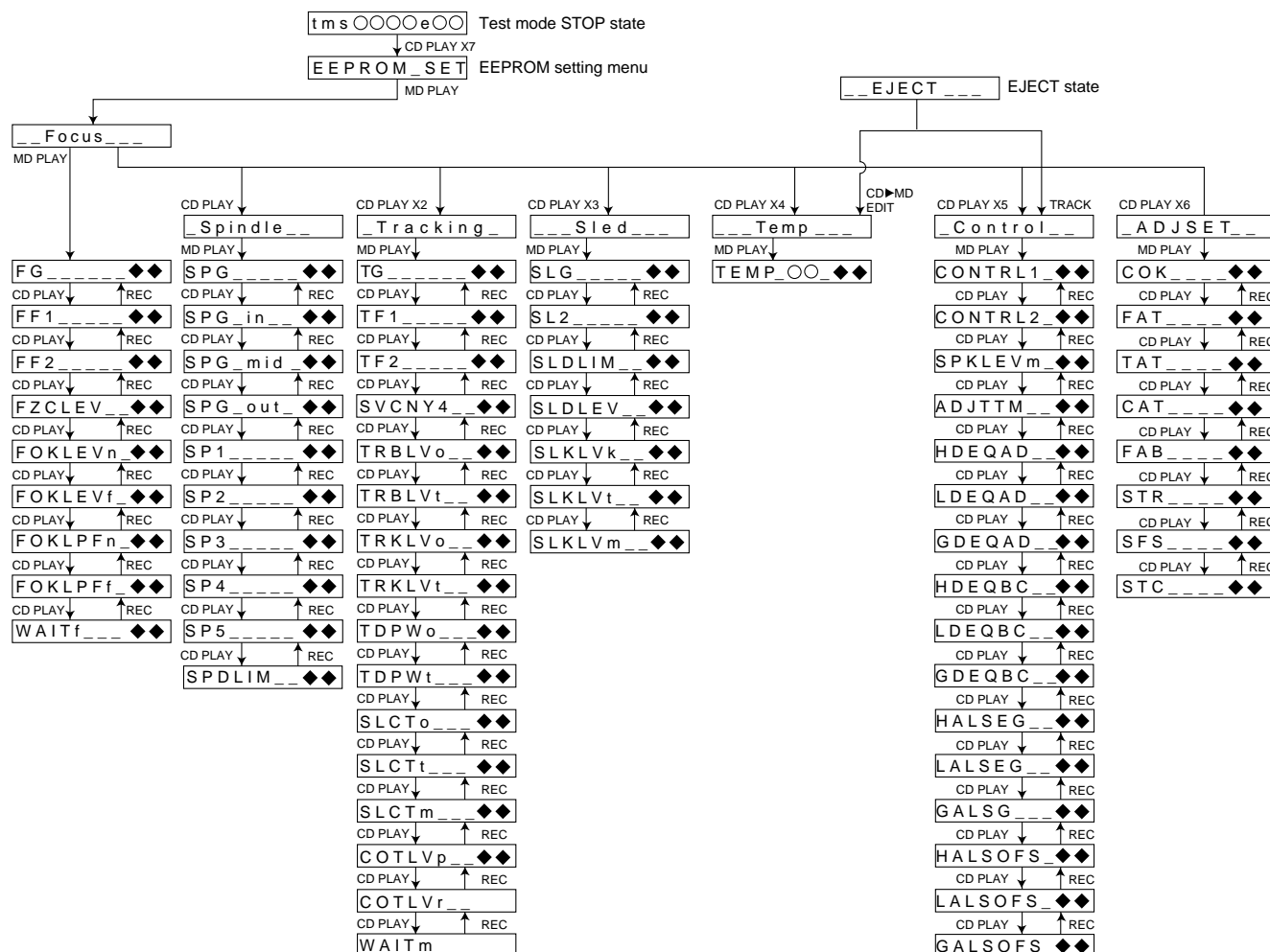
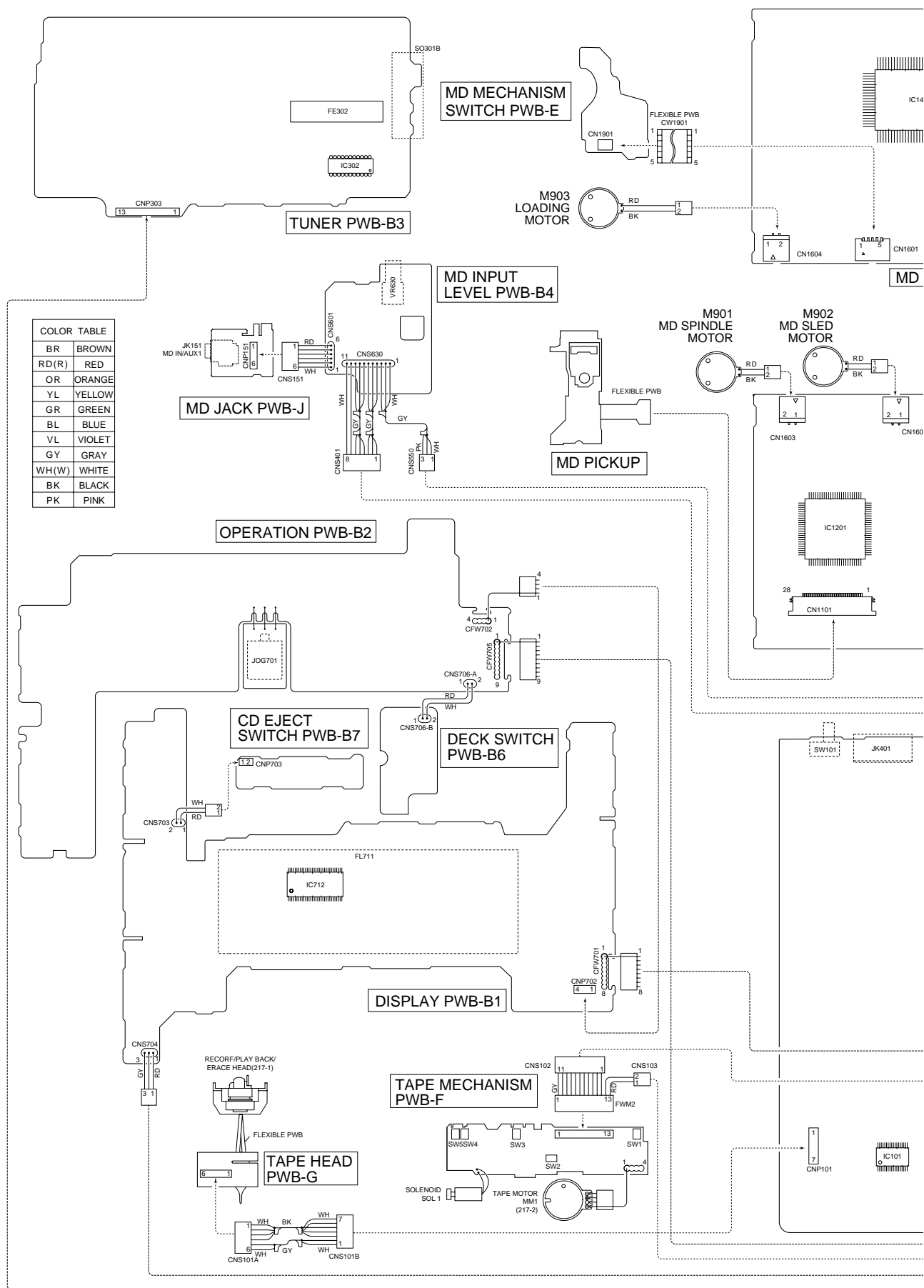
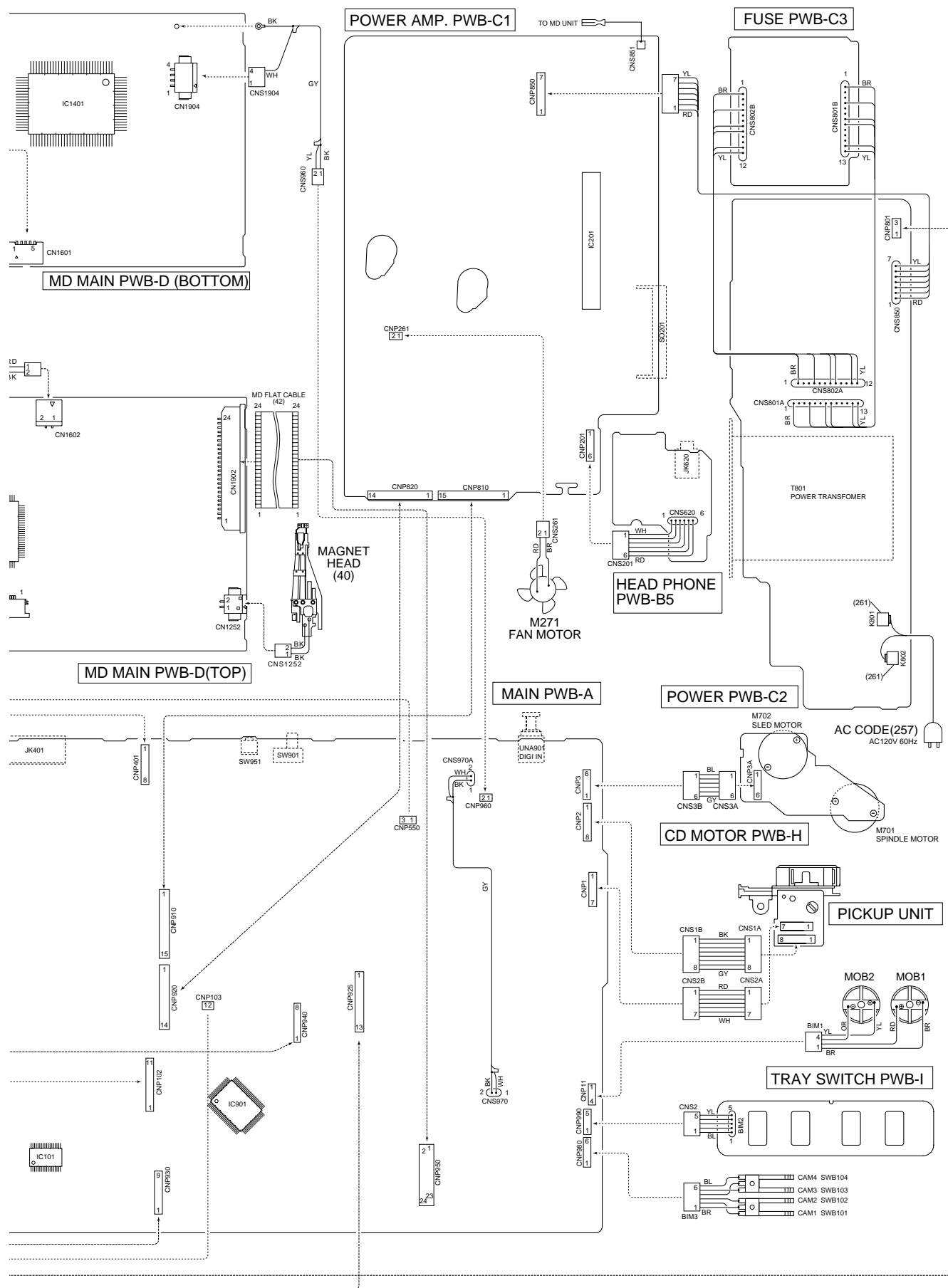


Figure 29



**Figure 30 WIRING BLOCK DIAGRAM (1/2)**



**Figure 31 WIRING BLOCK DIAGRAM (2/2)**

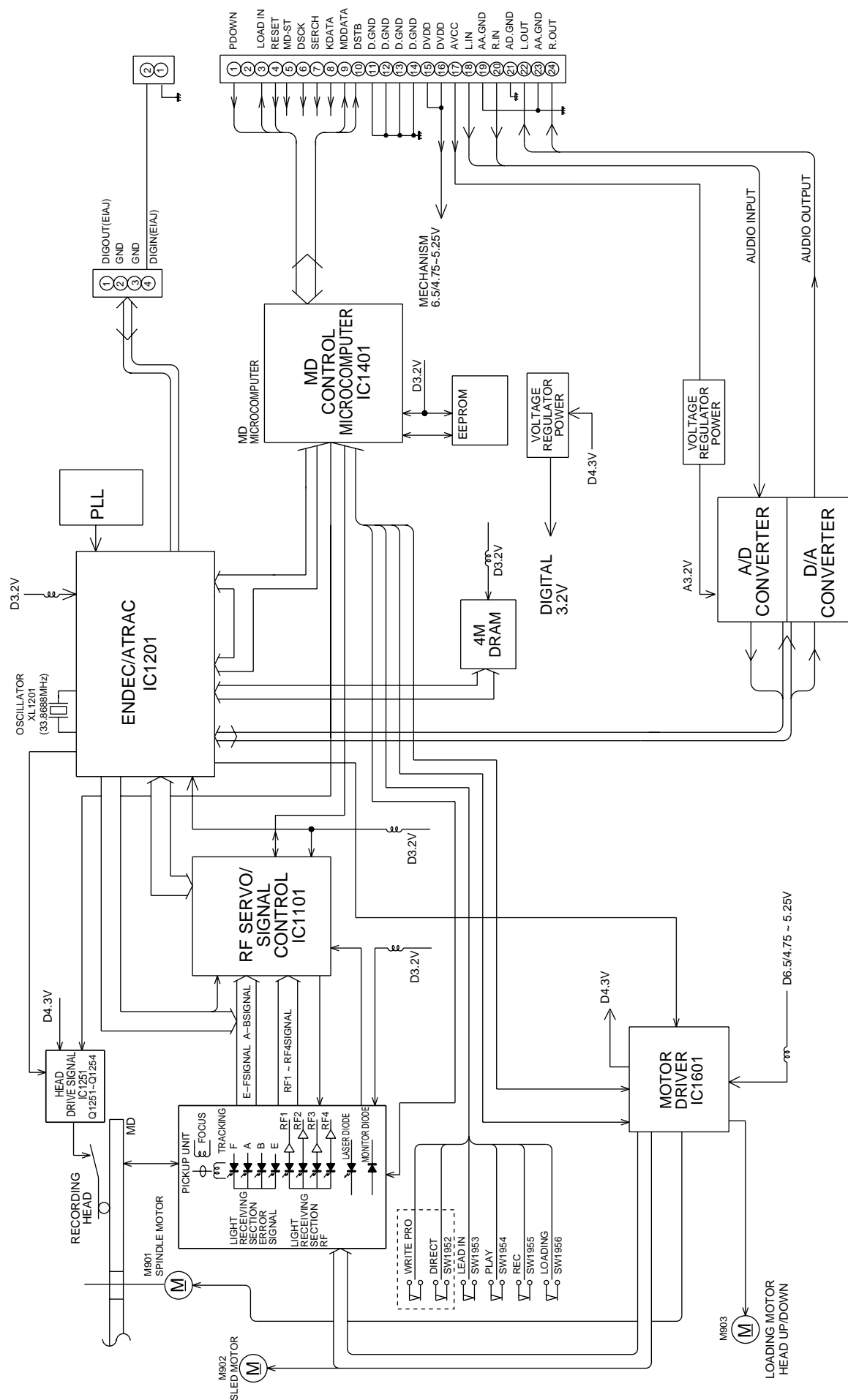


Figure 32 BLOCK DIAGRAM (1/4)



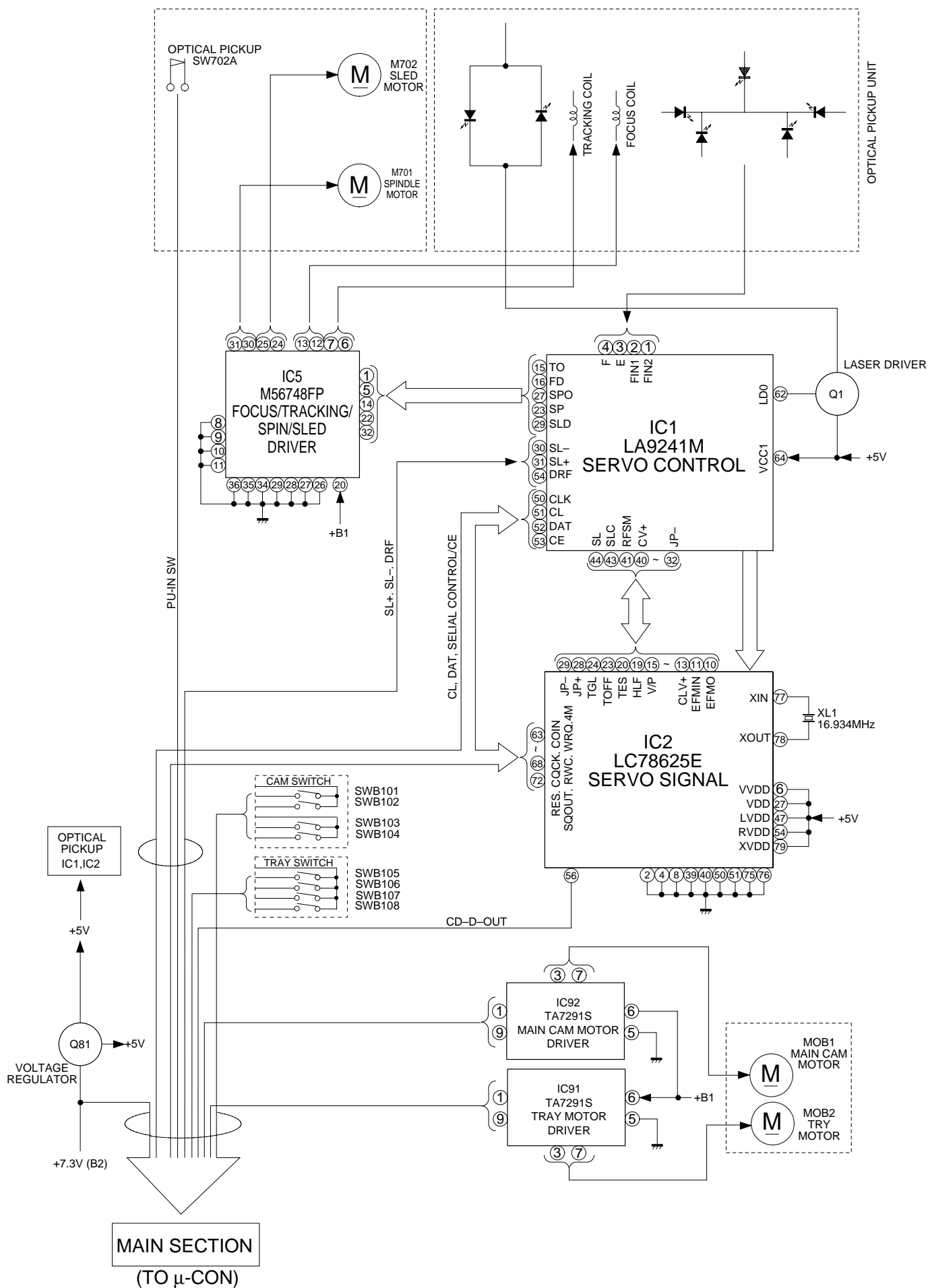
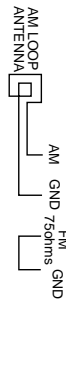
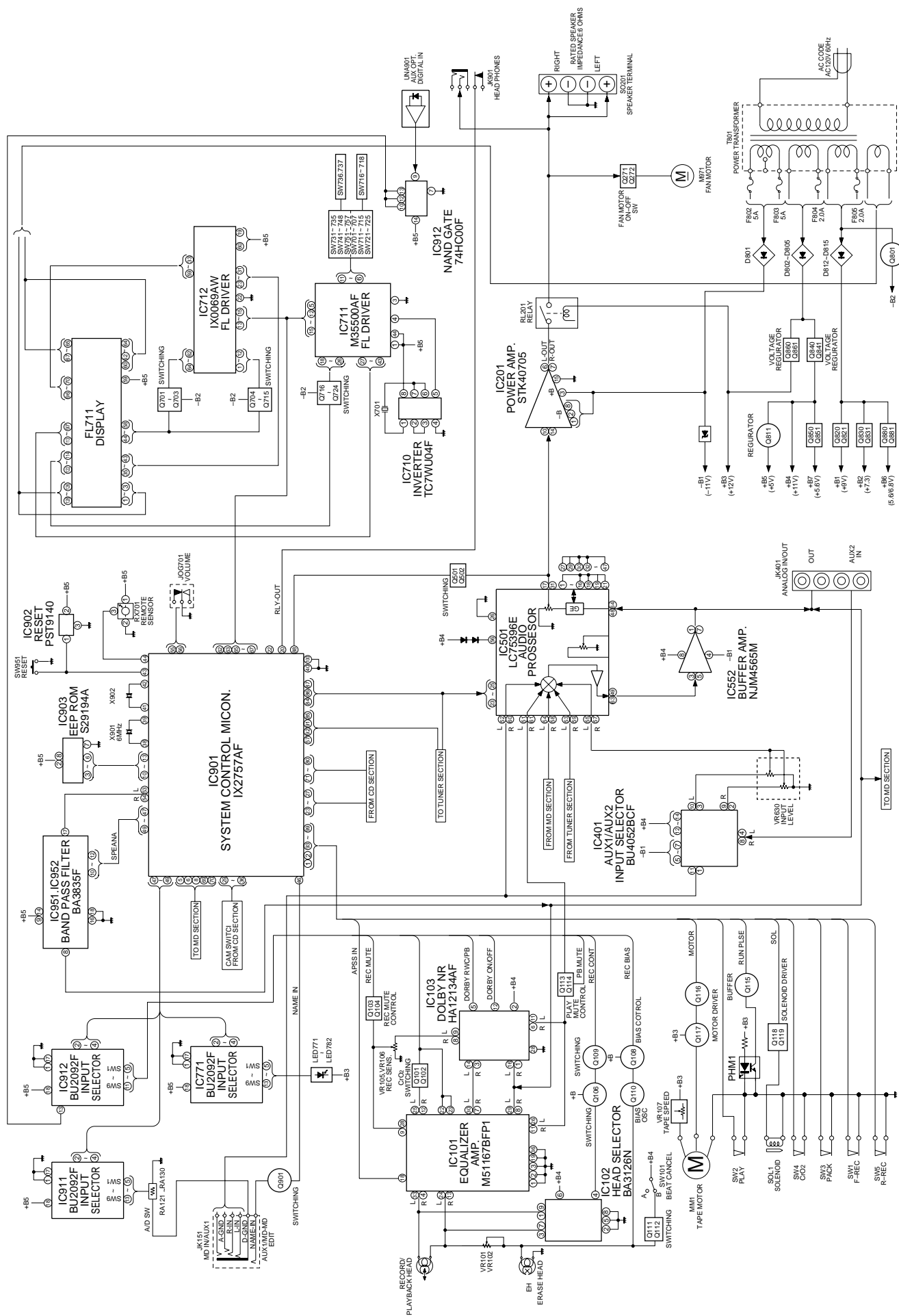


Figure 33 BLOCK DIAGRAM (2/4)



**Figure 34 BLOCK DIAGRAM (3/4)**



**Figure 35 BLOCK DIAGRAM (4/4)**



- 36 -

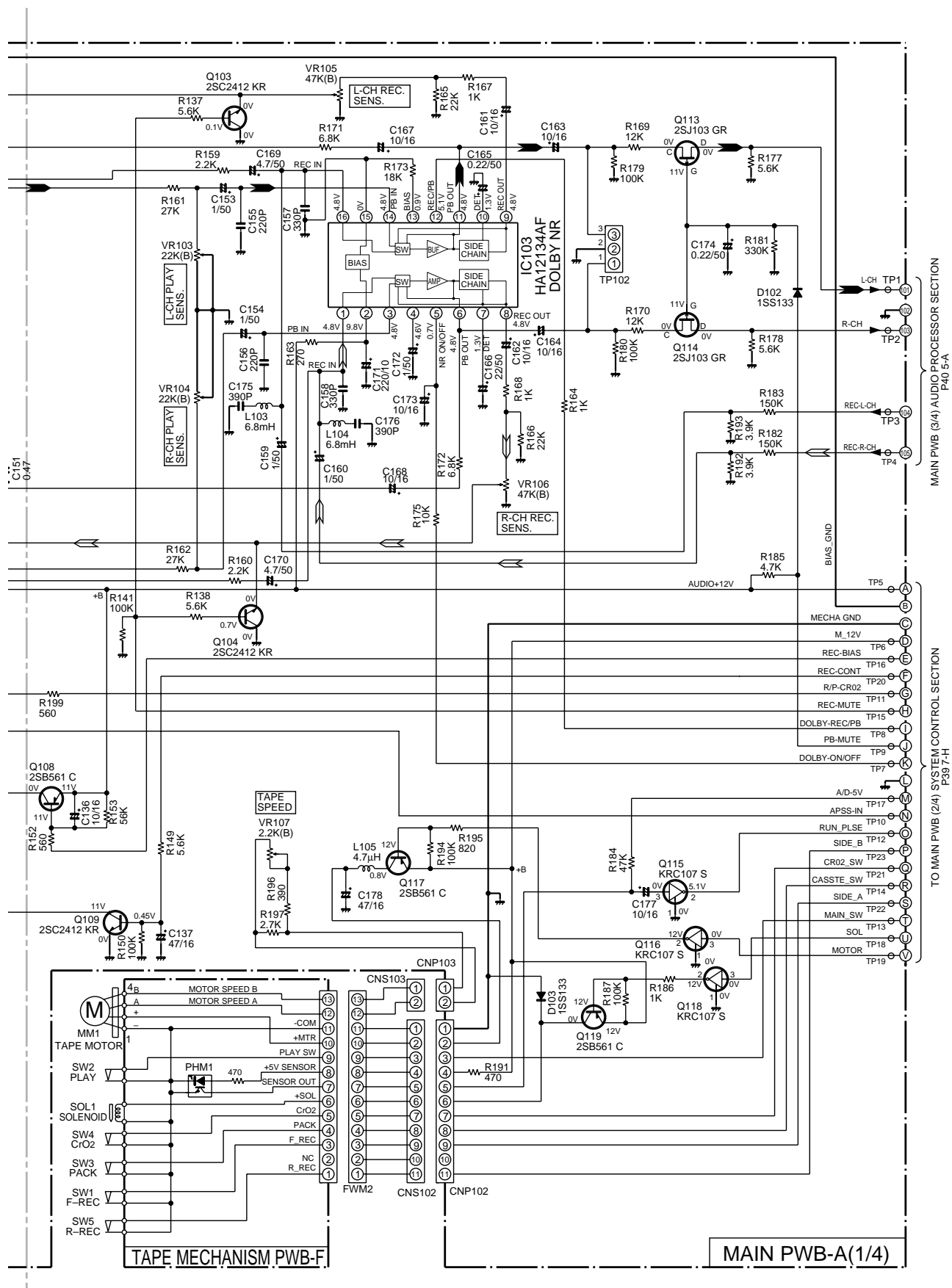


Figure 37 SCHEMATIC DIAGRAM (2/15)

- 38 -



- 39 -

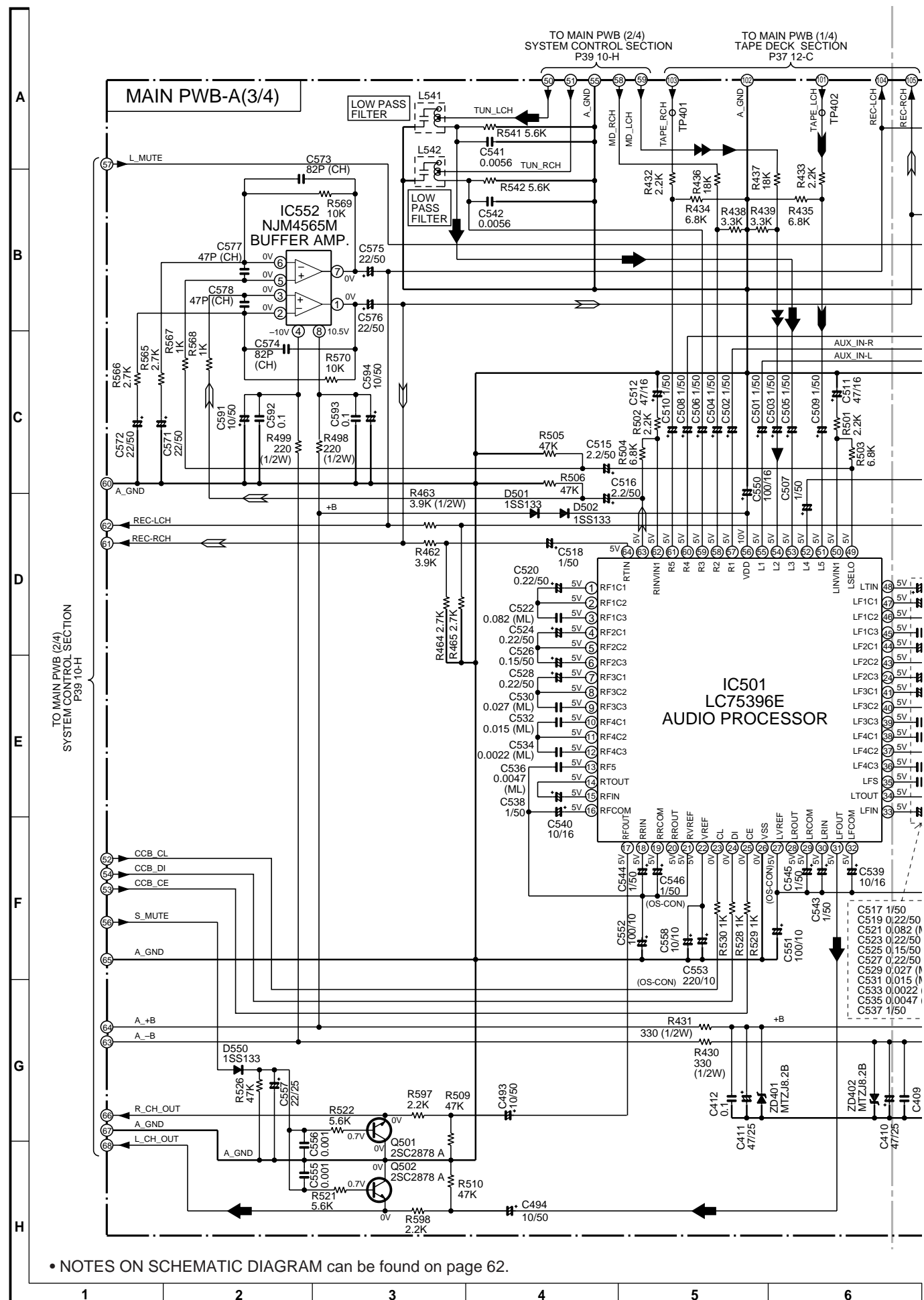


Figure 40 SCHEMATIC DIAGRAM (5/15)

- 41 -



1	2	3	4	5	6
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- 42 -



**Figure 43 WIRING SIDE OF P.W.BOARD (2/11)**

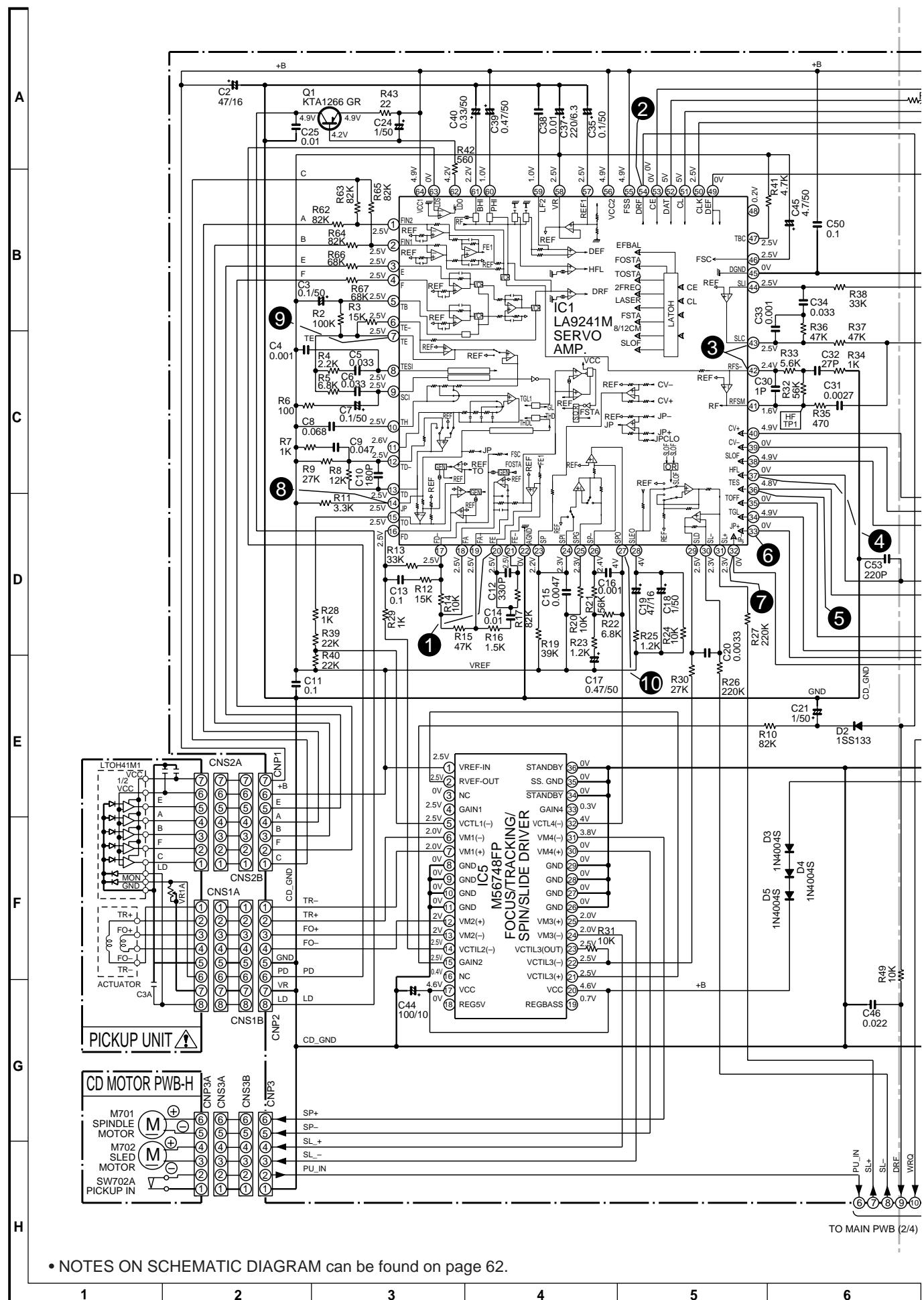
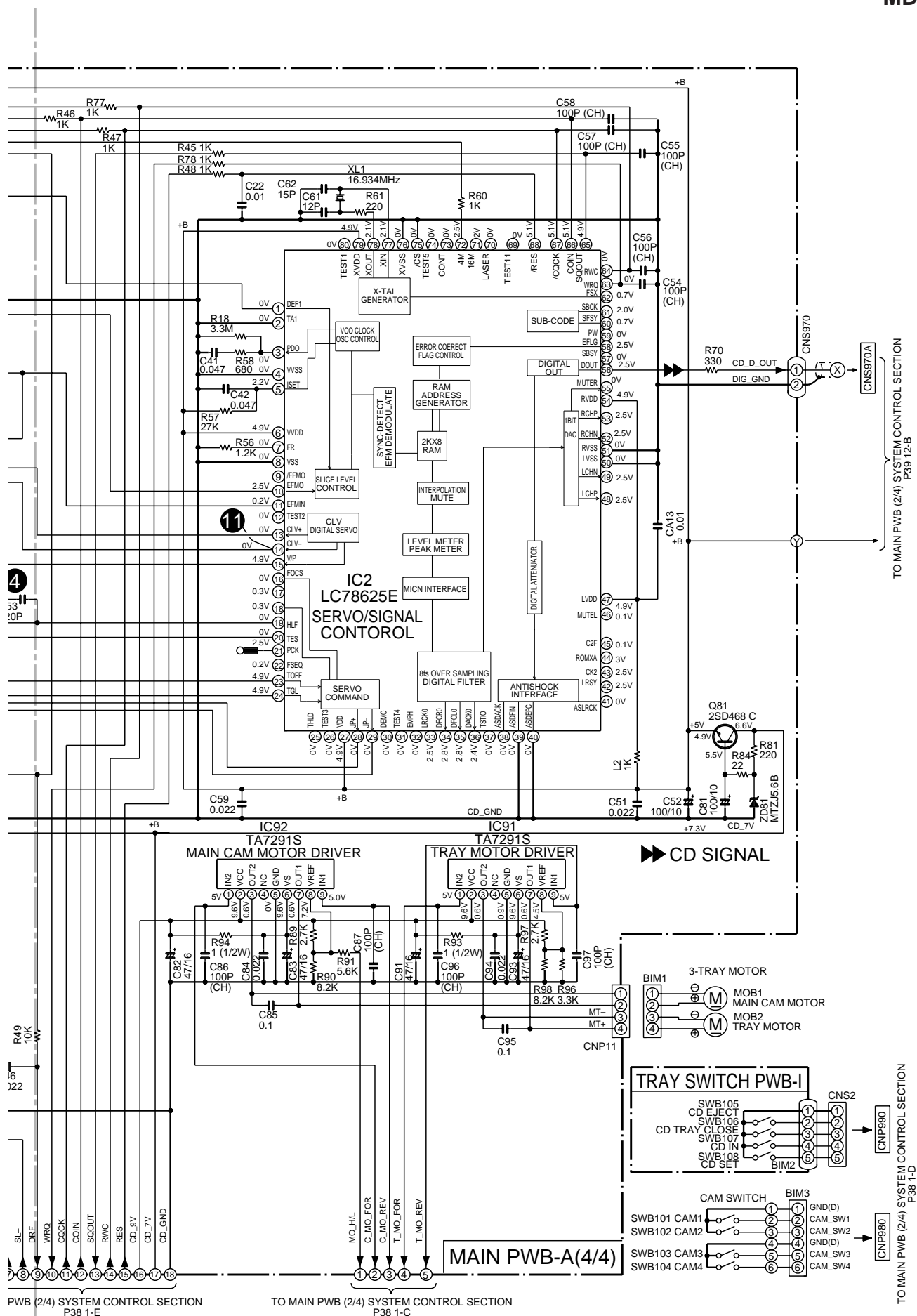


Figure 44 SCHEMATIC DIAGRAM (7/15)





• The numbers ① to ⑪ are waveform numbers shown in page 63.

Figure 45 SCHEMATIC DIAGRAM (8/15)

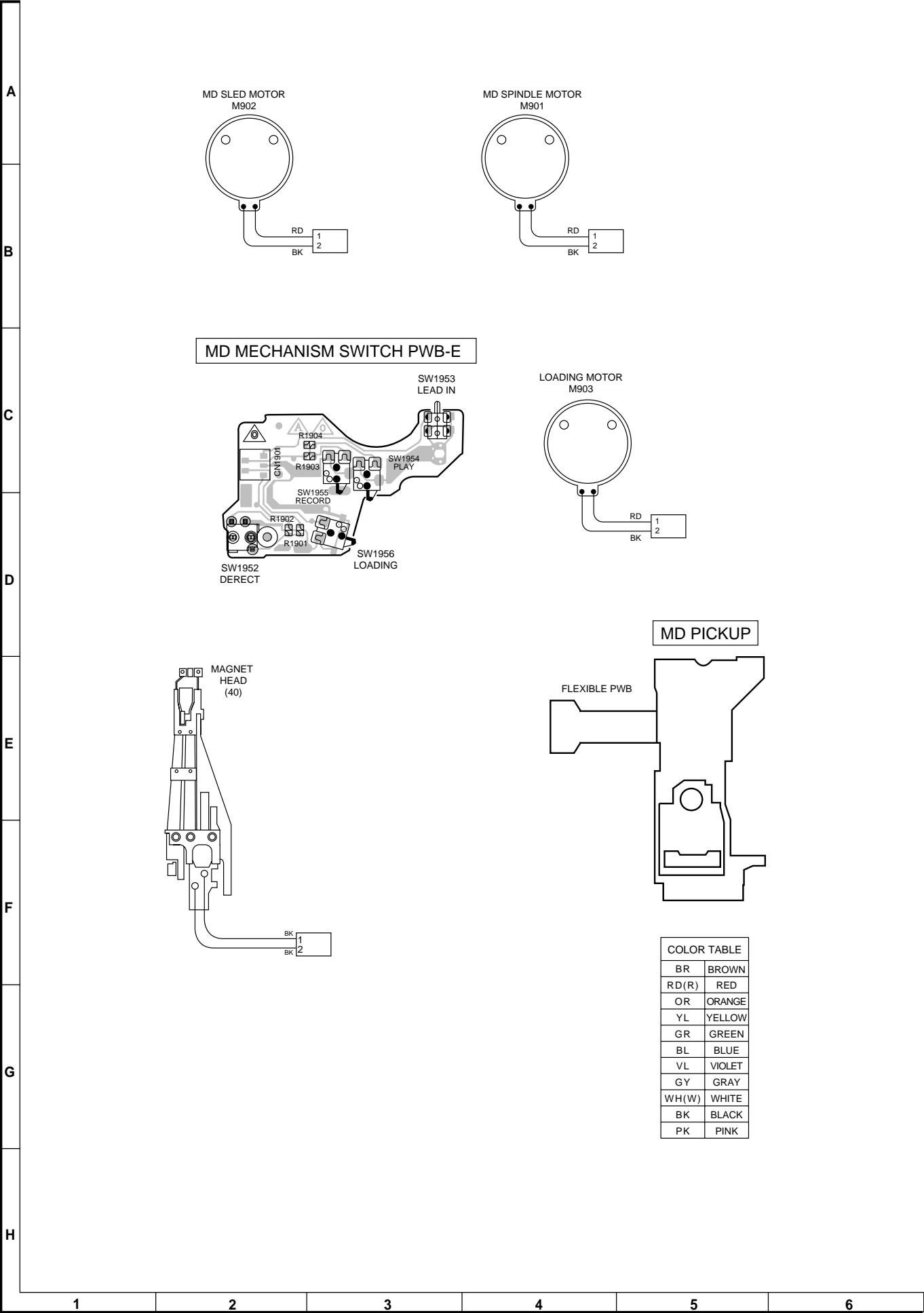
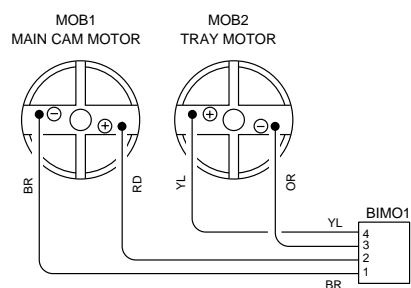
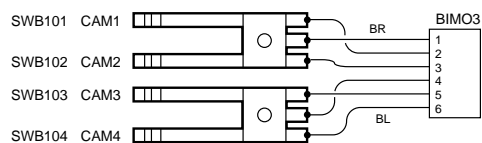
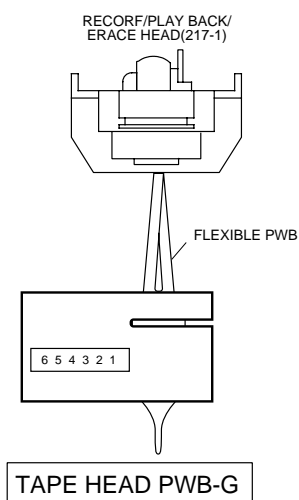
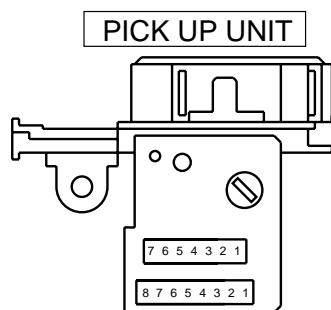
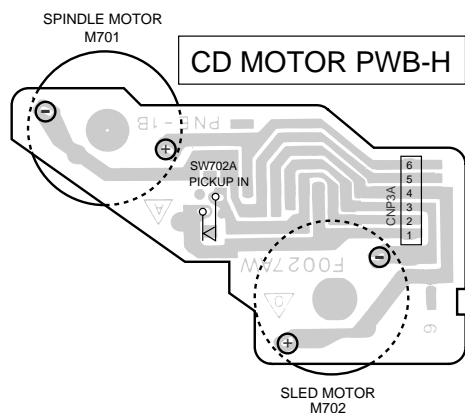
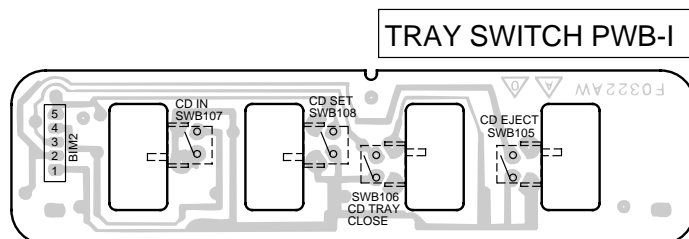
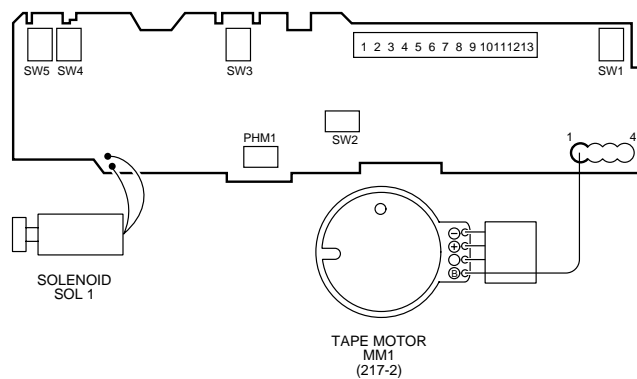


Figure 46 WIRING SIDE OF P.W.BOARD (3/11)



**TAPE MECHANISM PWB-F**



7	8	9	10	11	12
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**Figure 47 WIRING SIDE OF P.W.BOARD (4/11)**



Downloaded from [www.Manualslib.com](http://www.Manualslib.com) manuals search engine

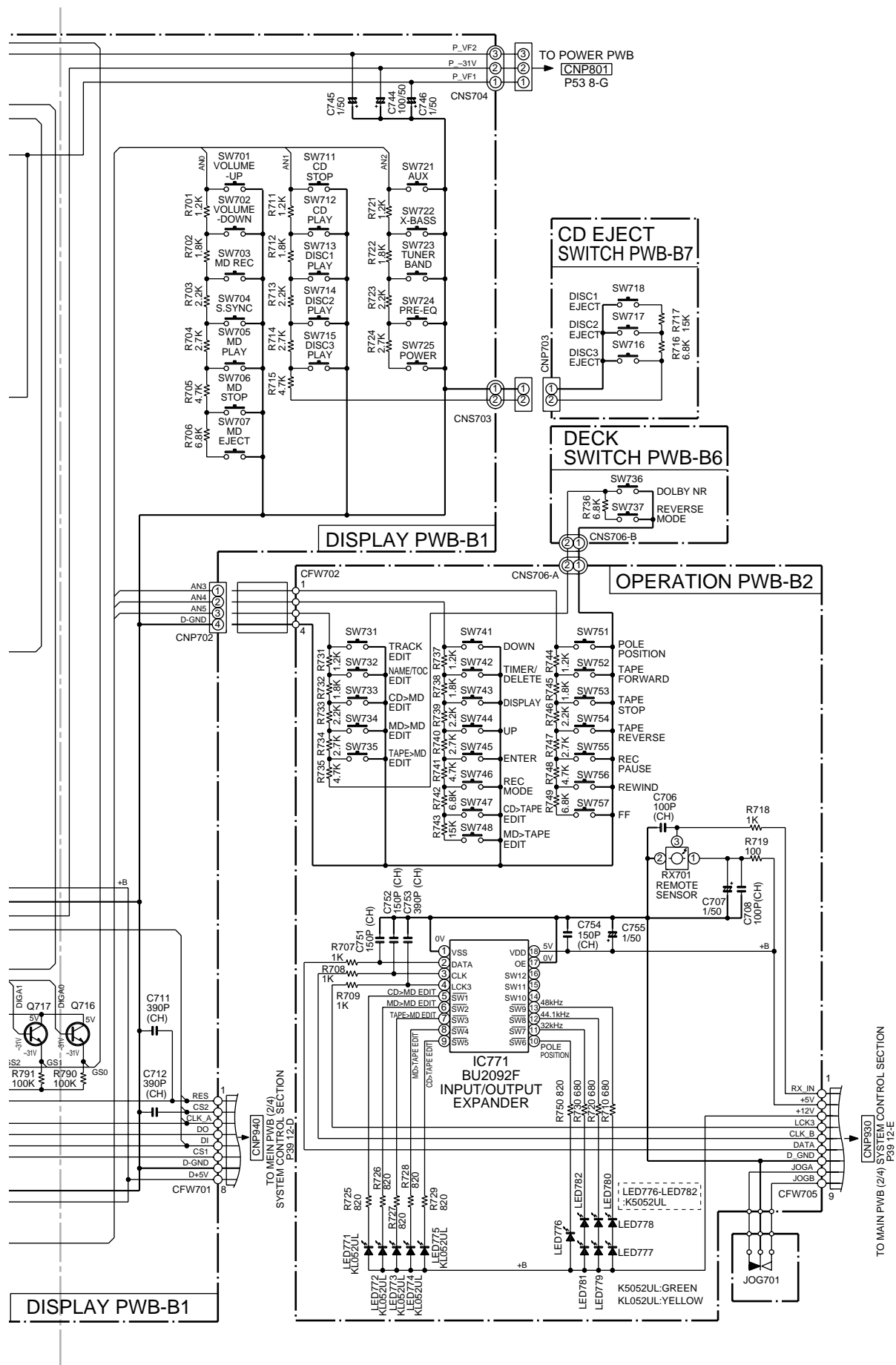


Figure 49 SCHEMATIC DIAGRAM (10/15)

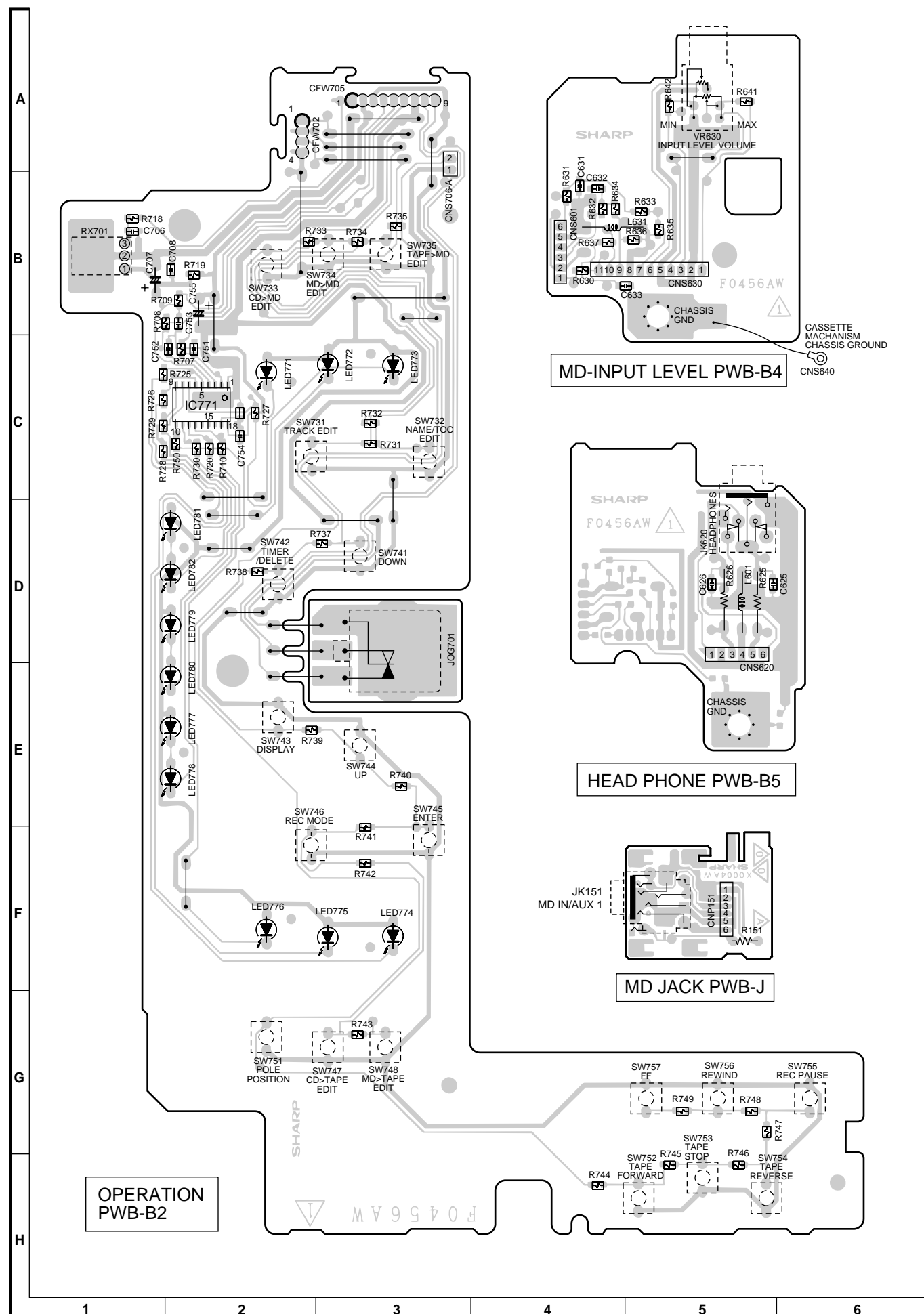


Figure 50 WIRING SIDE OF P.W.BOARD (5/11)



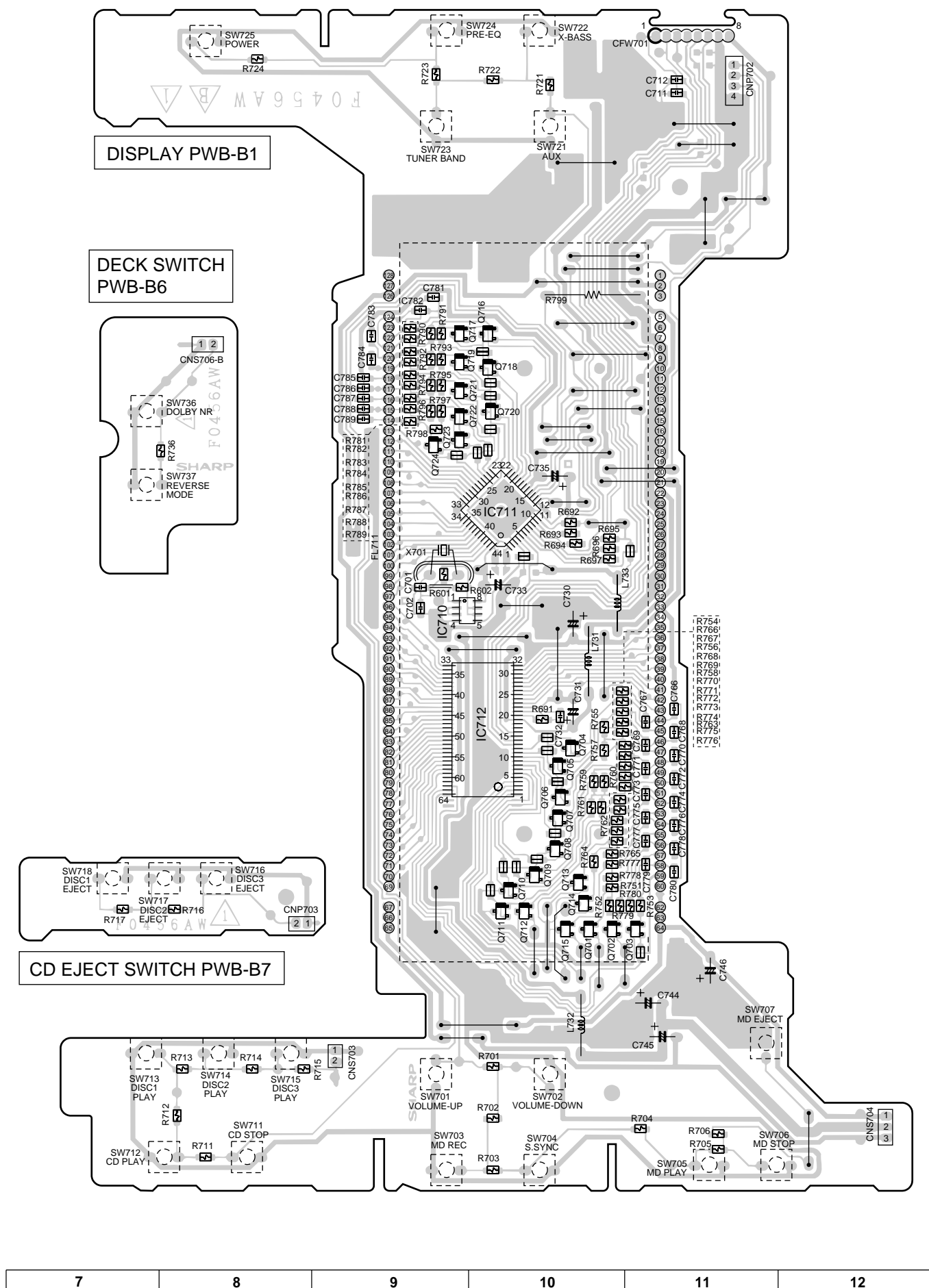


Figure 51 WIRING SIDE OF P.W.BOARD (6/11)

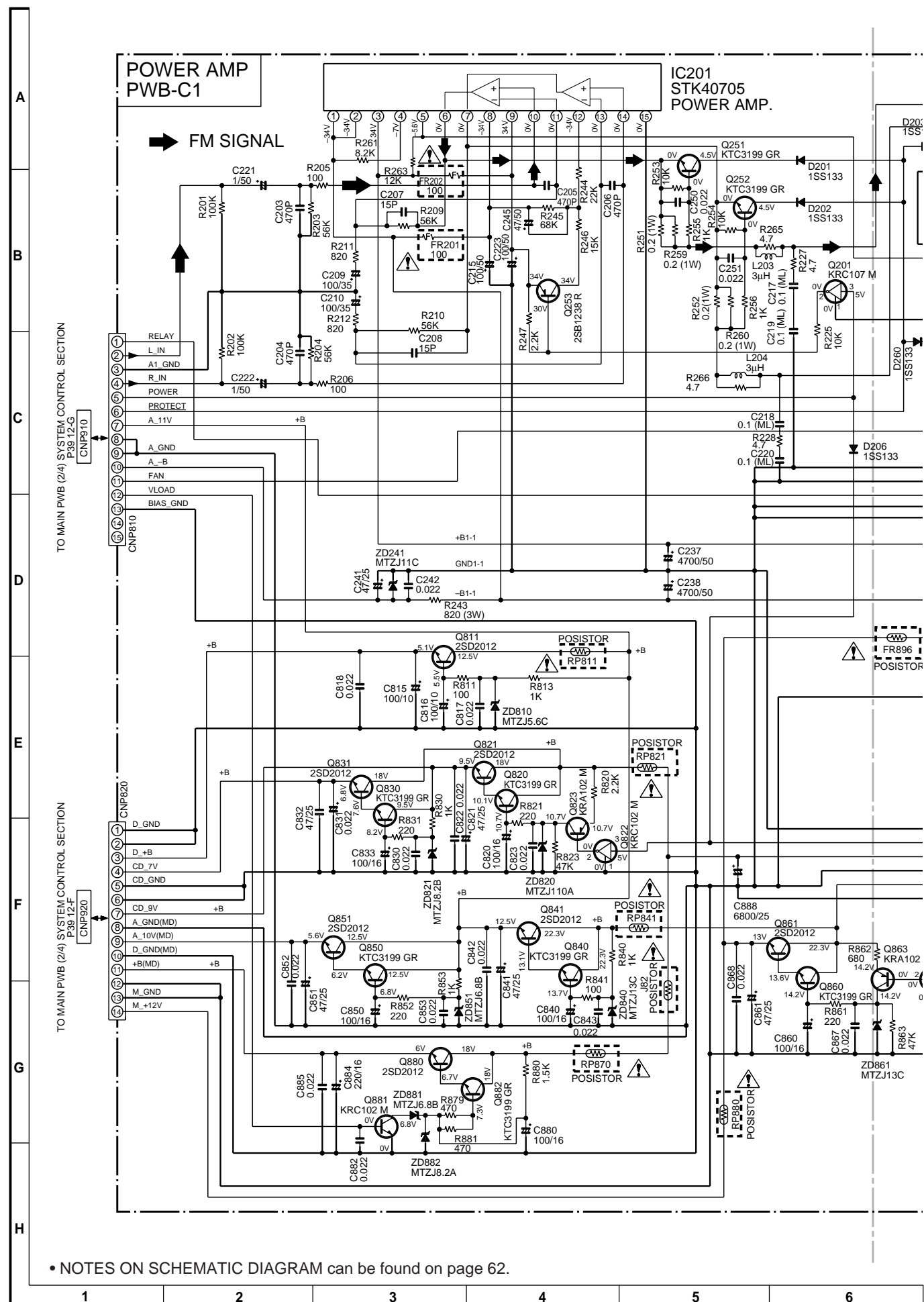


Figure 52 SCHEMATIC DIAGRAM (11/15)

- 53 -

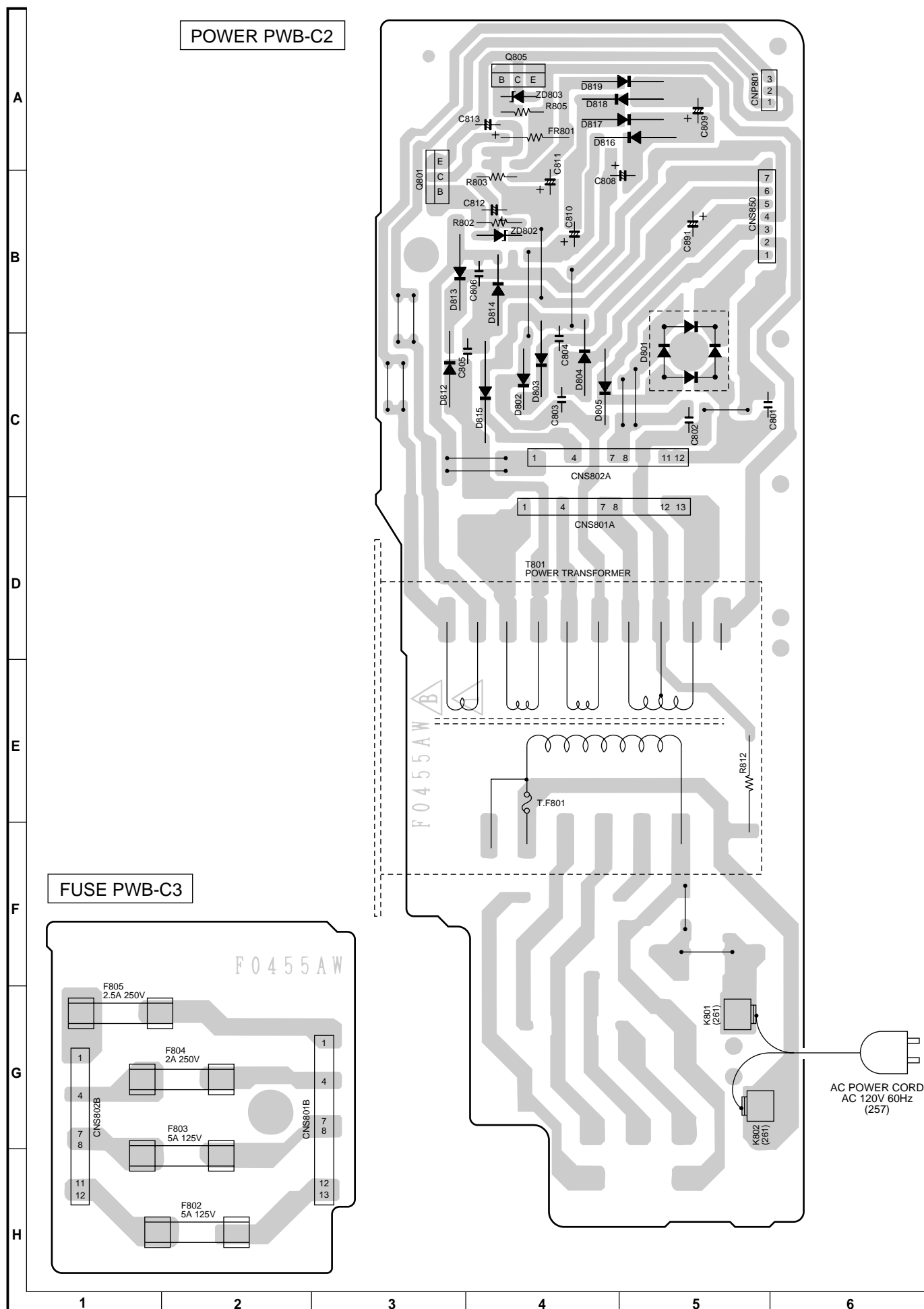
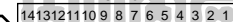


Figure 54 WIRING SIDE OF P.W.BOARD (7/11)



- 55 -

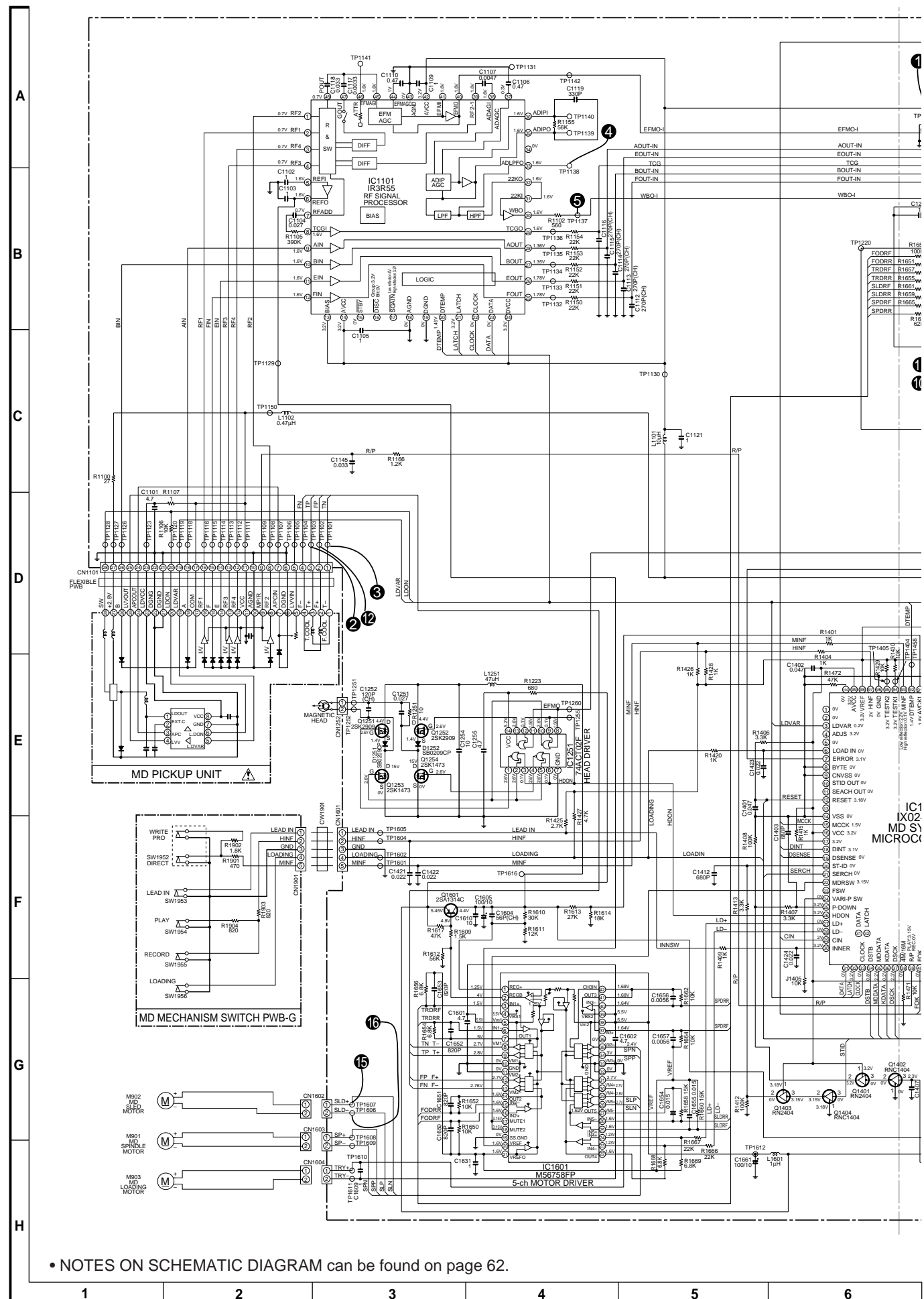


Figure 56 SCHEMATIC DIAGRAM (13/15)





- 24  
D FLAT (42)

24  
D FLAT (42)



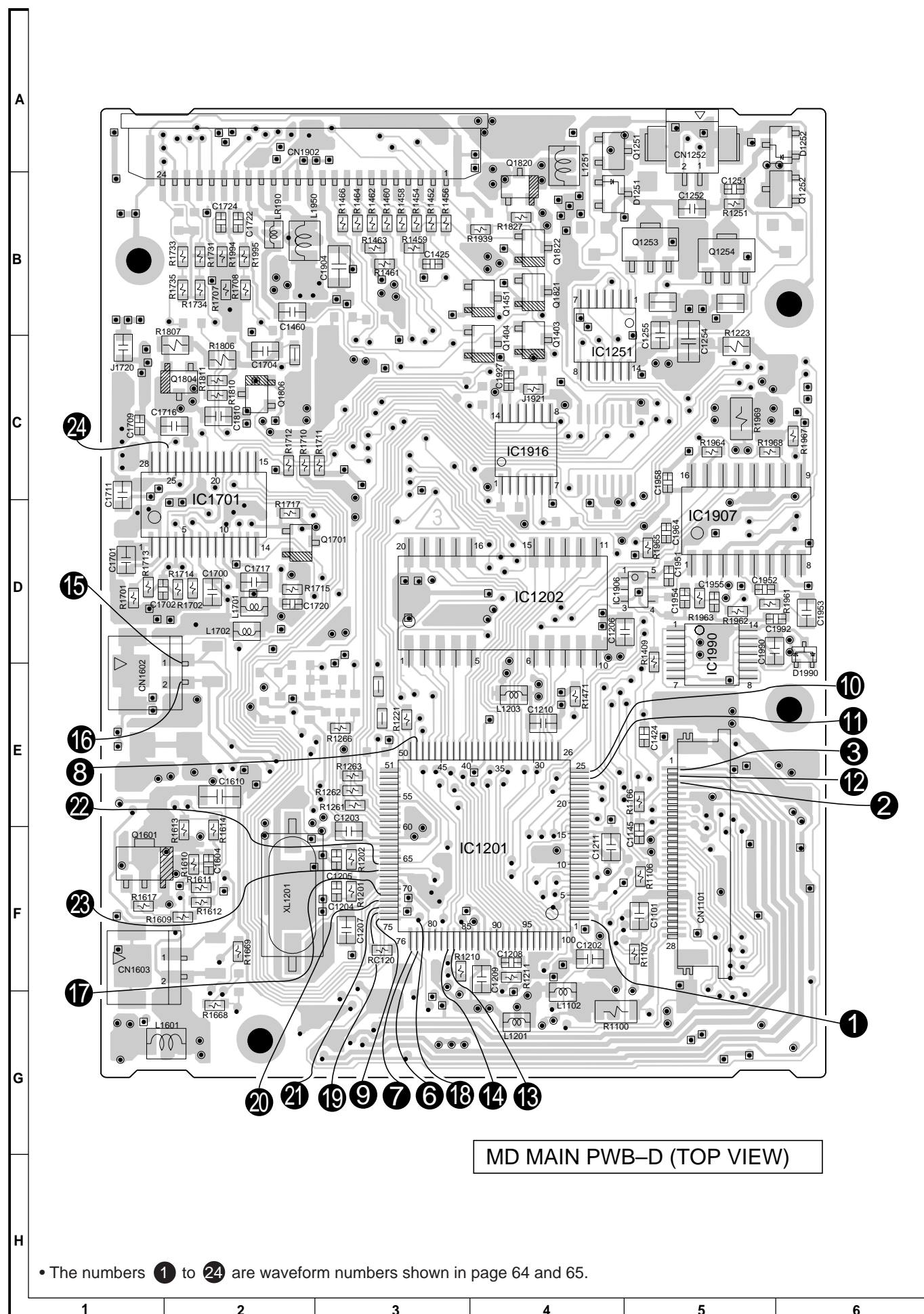
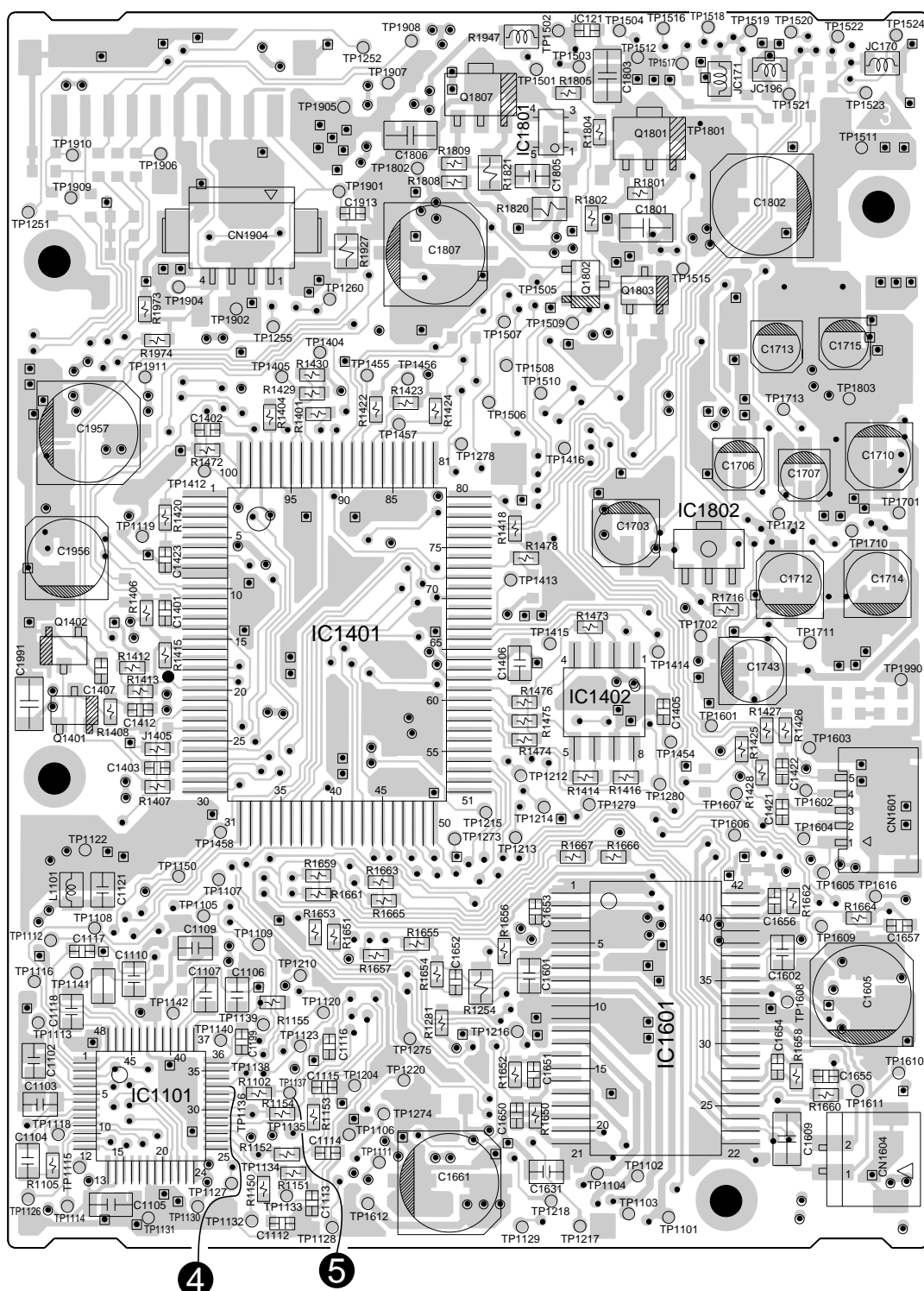


Figure 58 WIRING SIDE OF P.W.BOARD (9/11)

- ⊙ Through-hole where the top, bottom and +B patterns are connected.
- ▣ Through-hole where the top, bottom and ground patterns are connected.
- Through-hole where the top, and bottom patterns are connected.



MD MAIN PWB-D (BOTTOM VIEW)

7	8	9	10	11	12
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Figure 59 WIRING SIDE OF P.W.BOARD (10/11)

- 60 -

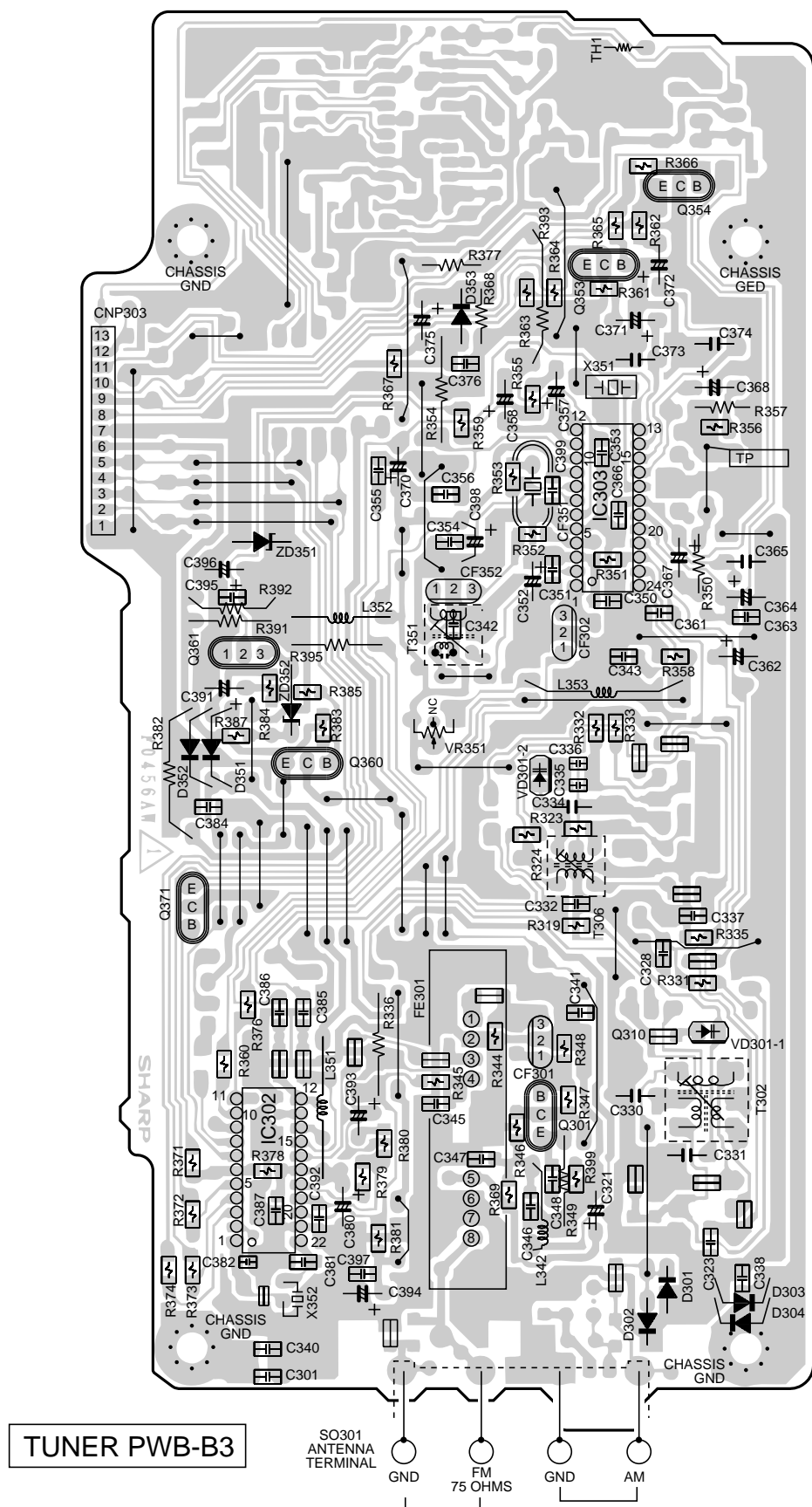


Figure 61 WIRING SIDE OF P.W.BOARD (11/11)

## NOTES ON SCHEMATIC DIAGRAM

- Resistor:

To differentiate the units of resistors, such symbol as K and M are used: the symbol K means 1000 ohm and the symbol M means 1000 kohm and the resistor without any symbol is ohm-type resistor. Besides, the one with "Fusible" is a fuse type.

- Capacitor:

To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.

(CH), (TH), (RH), (UJ): Temperature compensation

(ML): Mylar type

(P.P.): Polypropylene type

- Schematic diagram and Wiring Side of P.W. Board for this model are subject to change for improvement without prior notice.

- The indicated voltage in each section is the one measured by Digital Multimeter between such a section and the chassis with no signal given.

1. In the tuner section,

( ) indicates AM

< > indicates FM stereo

2. In the main section, a tape is being played back.

3. In the deck section, a tape is being played back.

( ) indicates the record state.

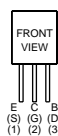
4. In the power section, a tape is being played back.

5. In the CD section, the CD is stopped.

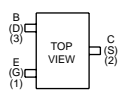
- Parts marked with "△" (□ = □) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO	DESCRIPTION	POSITION
SW1	F-REC	OFF
SW2	TAPE PLAY	OFF
SW3	PACK	OFF
SW4	CrO2	OFF
SW5	R-REC	OFF
SW101	BEAT CANCEL	B
SW701	VOLUME UP	OFF
SW702	VOLUME DOWN	OFF
SW702A	OPTICAL PICKUP IN	OFF
SW703	MD REC	OFF
SW704	S.SYNC	OFF
SW705	MD PLAY	OFF
SW706	MD STOP	OFF
SW707	MD EJECT	OFF
SW711	CD STOP	OFF
SW712	CD PLAY	OFF
SW713	DISC 1 PLAY	OFF
SW714	DISC 2 PLAY	OFF
SW715	DISC 3 PLAY	OFF
SW716	DISC 1 EJECT	OFF
SW717	DISC 2 EJECT	OFF
SW718	DISC 3 EJECT	OFF
SW721	AUX	OFF
SW722	X-BASS	OFF
SW723	TUNER(BAND)	OFF
SW724	PRE-EQ	OFF
SW725	POWER	OFF
SW731	TRACK EDIT	OFF
SW732	NAME/TOC EDIT	OFF
SW733	CD>MD EDIT	OFF
SW734	MD>MD EDIT	OFF

REF. NO	DESCRIPTION	POSITION
SW735	TAPE>MD EDIT	OFF
SW736	DOLBY NR	OFF
SW737	TAPE REVERSE MODE	OFF
SW741	DOWN	OFF
SW742	TIMER/DELETE	OFF
SW743	DISPLAY	OFF
SW744	UP	OFF
SW745	ENTER	OFF
SW746	REC MODE	OFF
SW747	CD>TAPE EDIT	OFF
SW748	MD>TAPE EDIT	OFF
SW751	POLE POSITION	OFF
SW752	TAPE FOWARD	OFF
SW753	TAPE STOP	OFF
SW754	TAPE REVERSE	OFF
SW755	REC PAUSE	OFF
SW756	REWIND	OFF
SW757	FF	OFF
SW951	RESET	OFF
SW1952	DERECT	OFF
SW1953	LEAD IN	OFF
SW1954	MD PLAY	OFF
SW1955	MD REC	OFF
SW1956	LOADING	OFF
SWB101,102	CAM1,2	OFF
SWB103,104	CAM3,4	OFF
SWB105	CD EJECT	OFF
SWB106	CD TRAY CLOSE	OFF
SWB107	CD IN	OFF
SWB108	CD SET	OFF



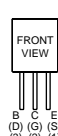
2SA562 Y  
2SB561 C  
2SC2878 A  
2SC3242 G  
2SC380 O  
2SD468 C  
2SJ103 GR  
KRA102 M  
KRC102 M  
KRC107 M  
KTA1266 GR  
KTC3199 GR



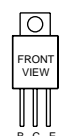
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DTC144 EK  
2SC2412 KR  
KRA107 S  
KRC107 S  
KTC3875 GR



2SB1238 R



2SD2012



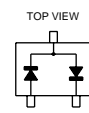
2SB1565 F



2SK1473



2SA1314 C



1SS372  
SB0209CP



KL052UL[GREEN]  
K5052UL[YELLOW]

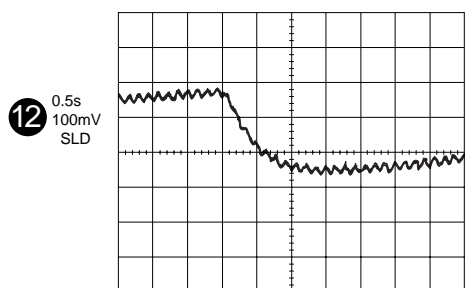
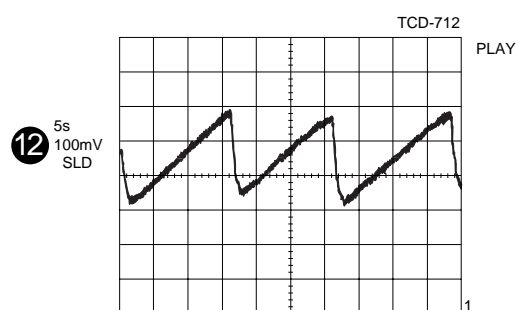
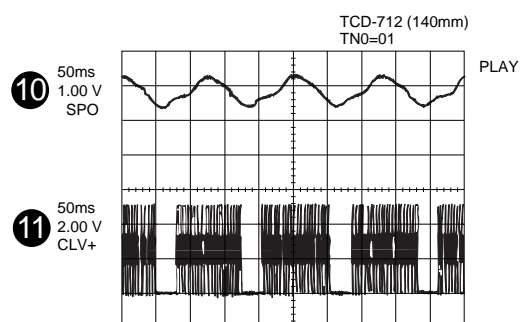
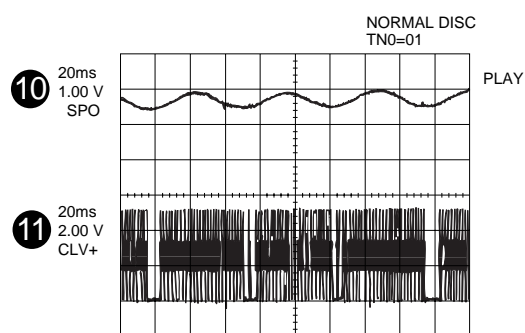
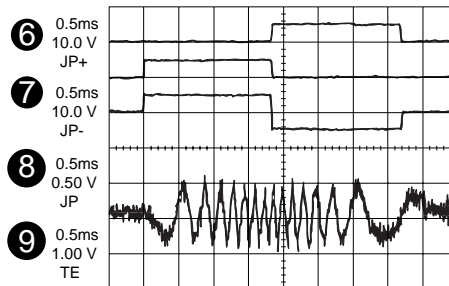
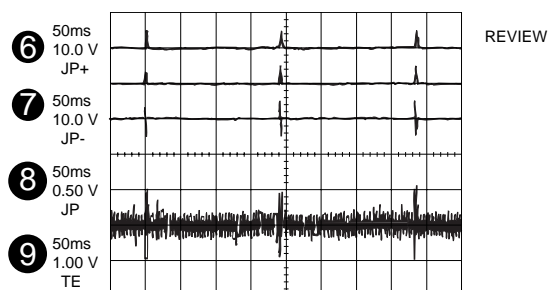
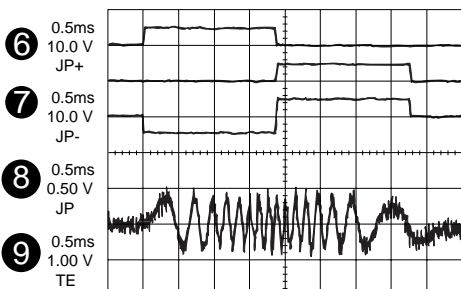
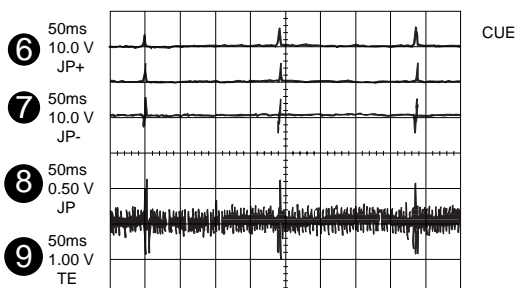
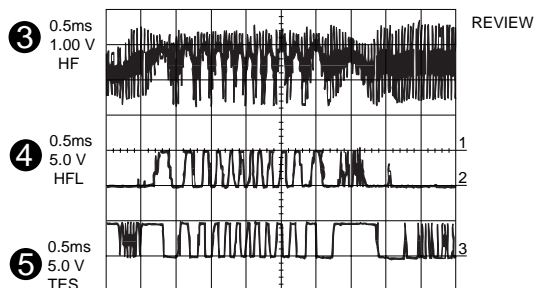
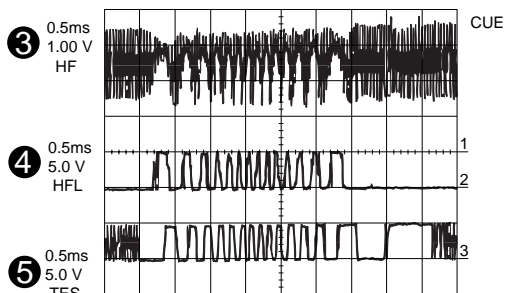
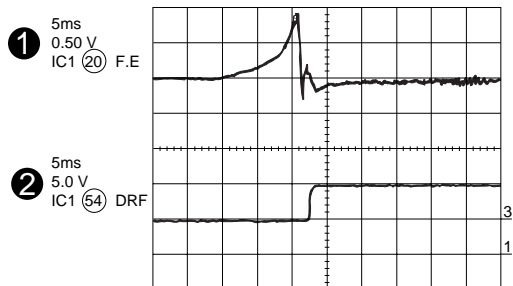
Figure 62 TYPES OF TRANSISTOR/DIODE AND LED



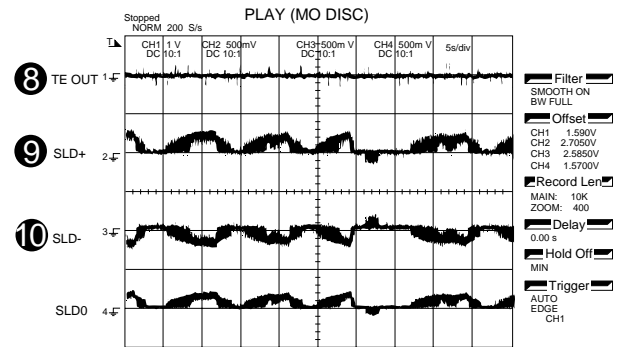
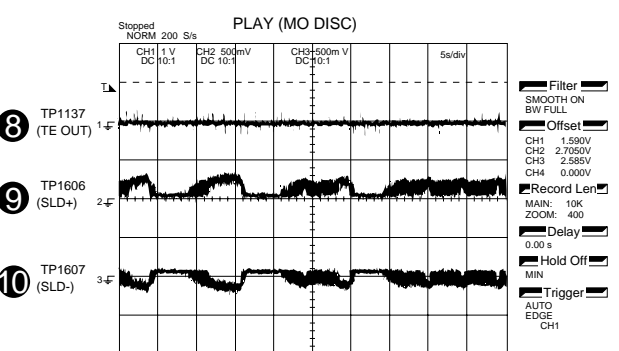
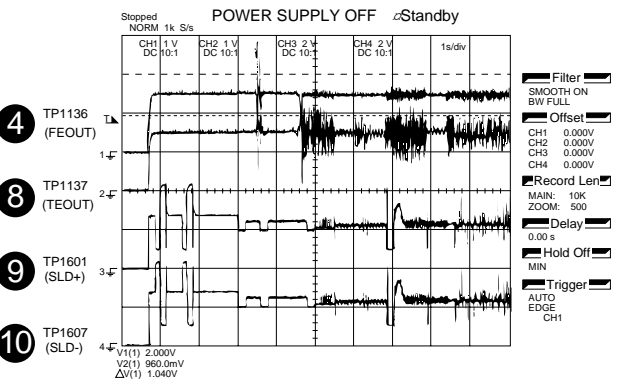
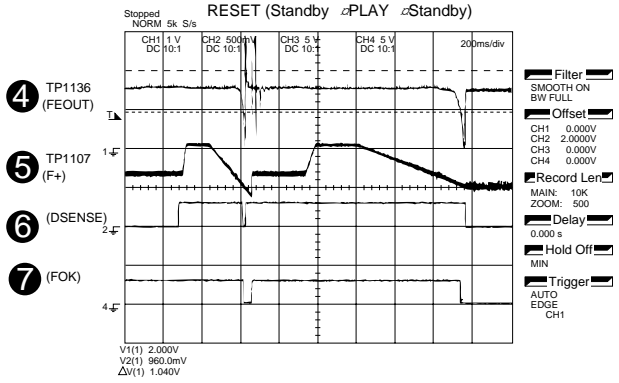
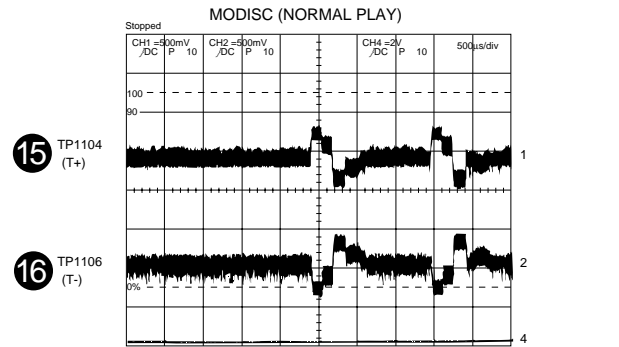
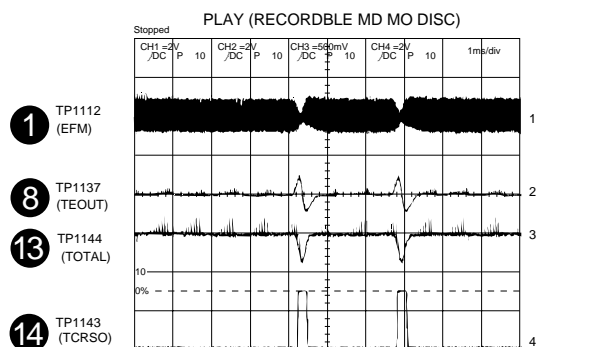
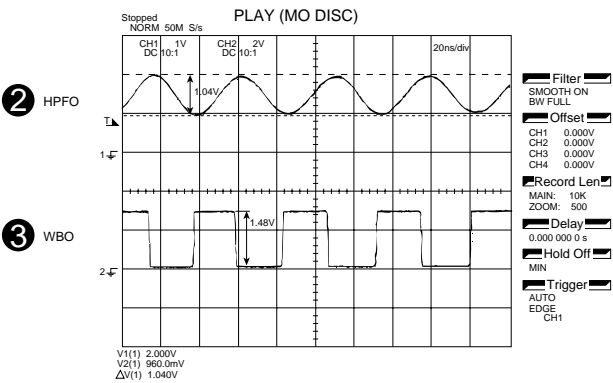
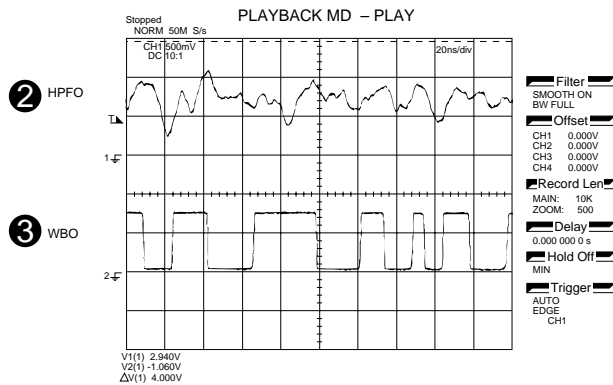
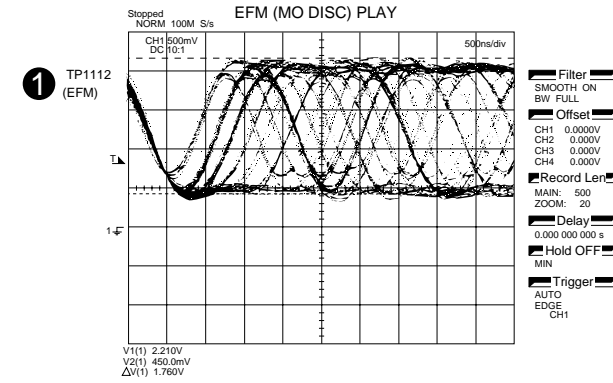
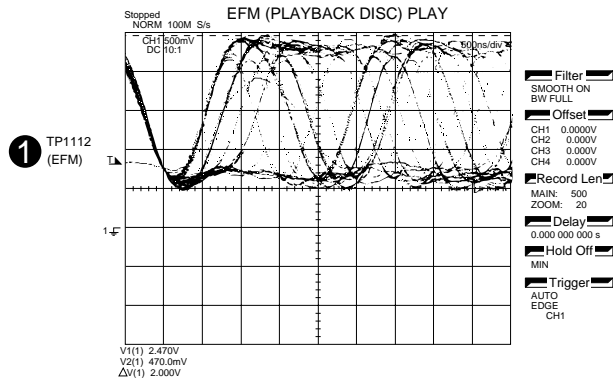
# WAVEFORMS OF CD CIRCUIT

STOP → PLAY

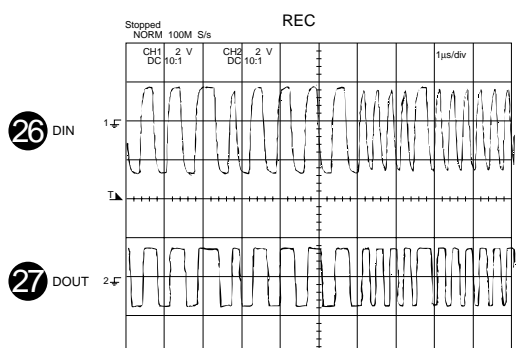
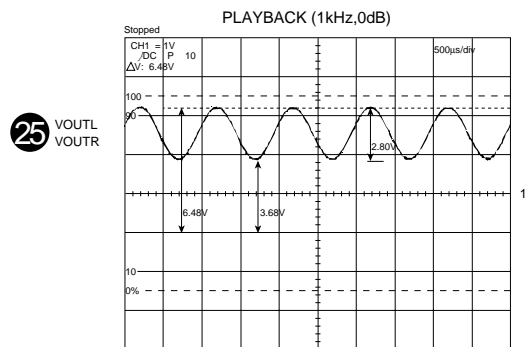
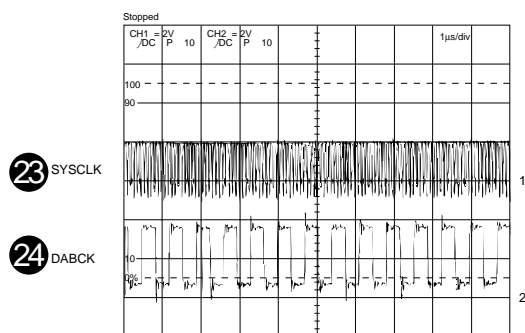
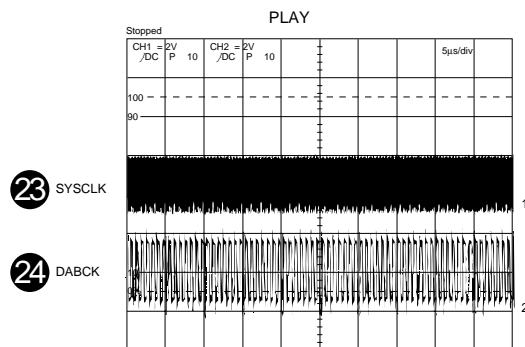
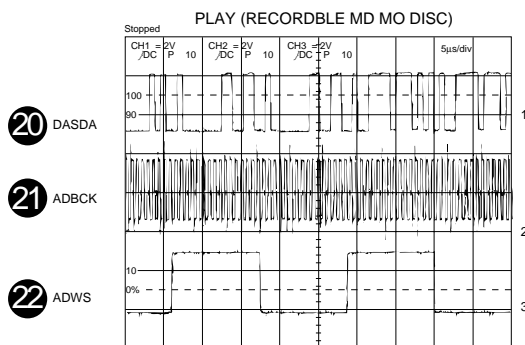
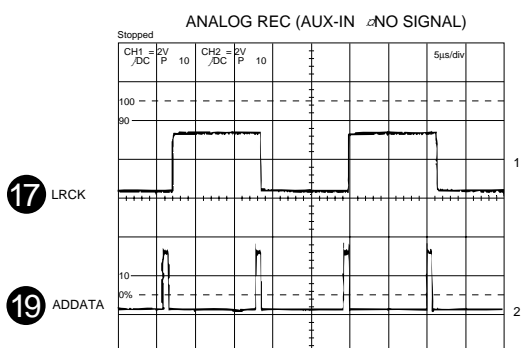
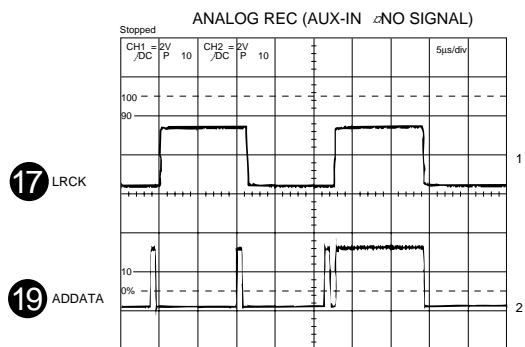
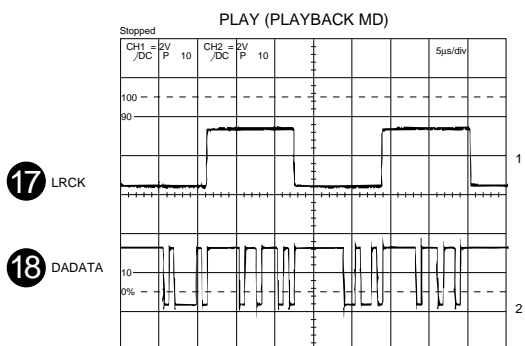
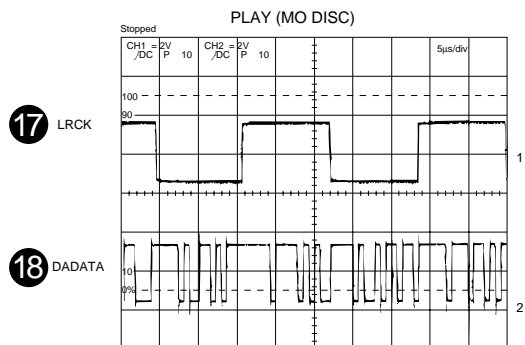
FOCUS — SERCH



## WAVEFORMS OF MD CIRCUIT







## TROUBLESHOOTING (CD SECTION)

### When the CD does not function

When the CD section does not operate When the objective lens of the optical pickup is dirty, this section may not operate. Clean the objective lens, and check the playback operation. When this section does not operate even after the above step is taken, check the following items.

Remove the cabinet and follow the troubleshooting instructions.

"Track skipping and/or no TOC (Table Of Contents) may be caused by build up of dust or other foreign matter on the laser pickup lens. Before attempting any adjustment make certain that the lens is clean. If not, clean it as mentioned below."

Turn the power off.

Gently clean the lens with a lens cleaning tissue and a small amount of isopropyl alcohol.

Do not touch the lens with the bare hand.

#### • The CD tray fails to operate.

Check the changer mechanism cam switch (SWB101 to SWB104) and tray switch (SWB105 to SWB108).

Yes

Check whether state changes to Low when IC901 pin 29 to 36 and cam SW1 (SWB 105 to SWB 108) is on.

pin 30 cam SW2  
pin 31 cam SW3  
pin 32 cam SW4  
is on.

Check whether state changes to Low when

IC901 pin 33 tray SWA.  
pin 34 cam SWB  
pin 35 cam SWC  
pin 36 cam SWB  
is on.

No

Check the connection between IC901 and SW.

Yes

Check whether output of pins 3 and 7 of main cam motor driver IC92 is normal.

No

Check the connection from IC2 of pins 24 and 25 to IC92.

Yes

Check whether the output of pins 3 and 7 of tray motor driver IC91 is normal.

No

Check the connection from IC2 of pins 26 and 27 to IC9.

Yes

Check the motors MOB1 and MOB2.

#### • The CD function will not work.

The CD operating keys don't work

Yes

Check the CD, DSP, power supply, and 16.93 MHz clock and reset terminal IC2 pin 68.

Yes

Check the waveform of SCK, SO (DATA) and SI (COMM).  
Check the waveform of IC2 pin 65 (SQOUT), pin 66 (COIN), and pin 67 (CQCK).

Yes

Check that the pickup is in the PICKUP IN switch position of SW702A.

Yes

If the items mentioned above are OK, check the main microcomputer IC901.

• The CD operation keys work.

Check the FOCUS-HF system.

Playback can be performed without a disc.

Yes

Does the pickup move up and down two times?

No

Focus search OK

Yes

Does the output waveform of IC1 pin 16 (FD) match that shown in Figure 67-1?

No

Check the area around IC5 to CNP2.

Yes

Check 4 MHz of IC1 pin 50 (CLK) line and the microcomputer data of pin 51 (CL), pin 52 (DAT) and pin 53 (CE).

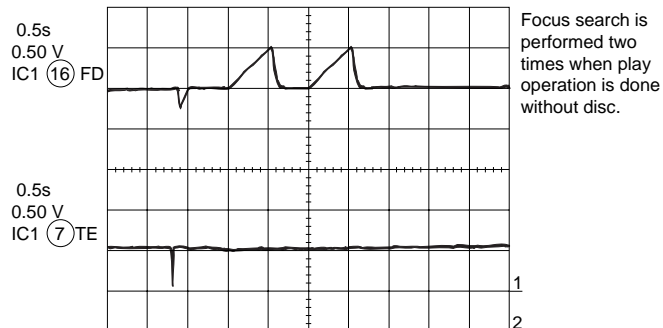


Figure 67-1

• Playback can only be performed when disc is loaded.

Is the Focus servo active? (Can you hear it working?)

No

Check the laser diode driver.  
Check the area around IC1 pin 16 to pin 21 (focus servo circuit).

Yes

Does the DRF signal of IC1 pin 54 change from "L" to "H"?

No

If the disc is not turning, the DRF should not change to "H".

Yes

Check the spindle system.

Yes

Is HF waveform normal (see the Figure 67-2, Figure 67-3)?

No

Level is abnormal

Yes

Check the periphery of IC1 pin 41 and pin 42.

Yes

Check the tracking system.

Waveform is unstable.

Yes

Check the spindle system.

HF  
1.0V/DIV  
0.5μsec/DIV(DC)  
(When playing back the disc)

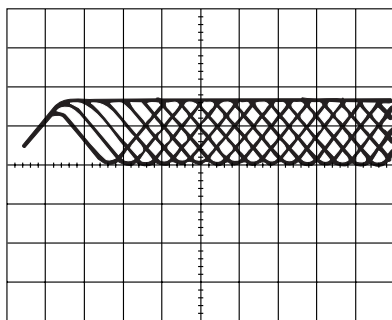


Figure 67-2

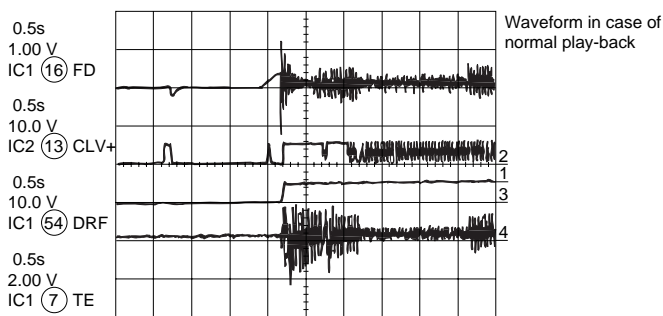


Figure 67-3

### • Check the tracking system.

Check the waveform of IC1 pin 7 (TE).

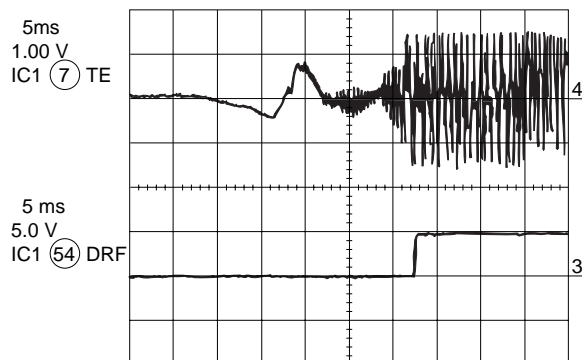
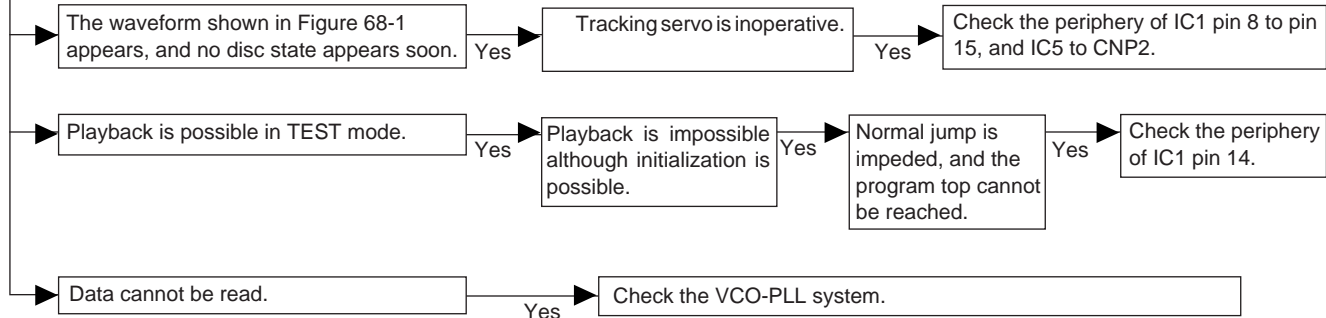


Figure 68-1

### • Check the spindle system

Play operation is performed without disc.

Yes

The turntable rotates a little.

No

The spindle driver is normal.

Yes

The turntable fails to rotate or rotates at high speed.

No

Check the periphery of IC1 pin 23 to pin 27, pin 39, pin 40, IC2 pin 12, pin 13, from IC5 to CNP3.

### • Checking the VCO-PLL system.

Play operation is performed when disc exists.

Yes

Although the HF waveform is normal, TOC data cannot be read.

No

Check the PDD waveform of IC2 pin 3. (Figure 68-2)

Abnormal

Check the IC1 pin 43, pin 44, IC2 pin 3, pin 5, pin 7, pin 10, and pin 11.

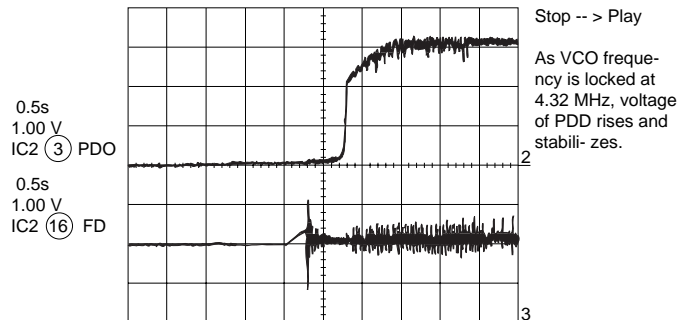
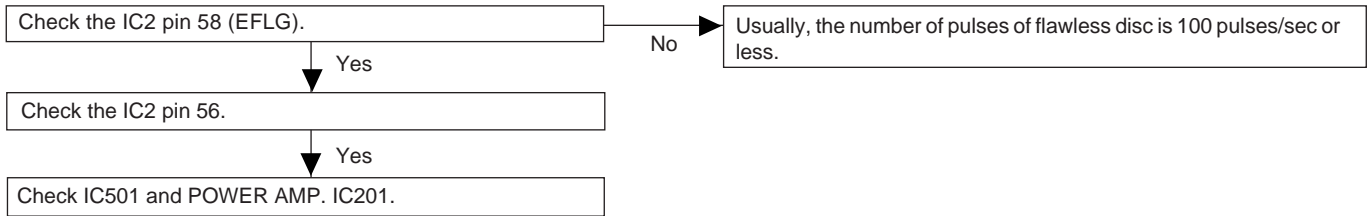


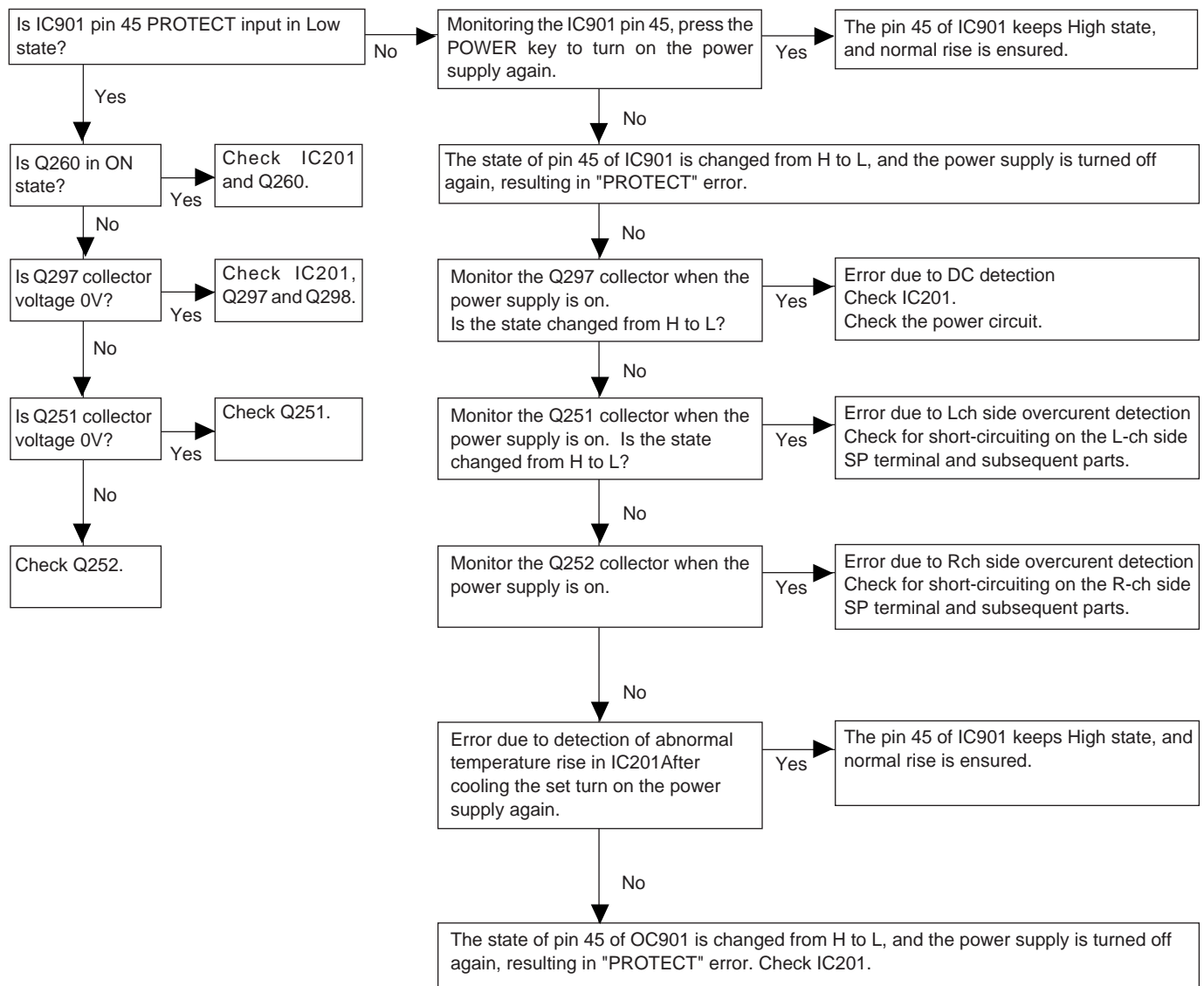
Figure 68-2

- Although HF waveform is normal and time indication is normal, no sound is not output.



## TROUBLE-SHOOTING (AMP SECTION)

- When the power supply is turned off (POWER OFF), and the "PROTECT" blinks



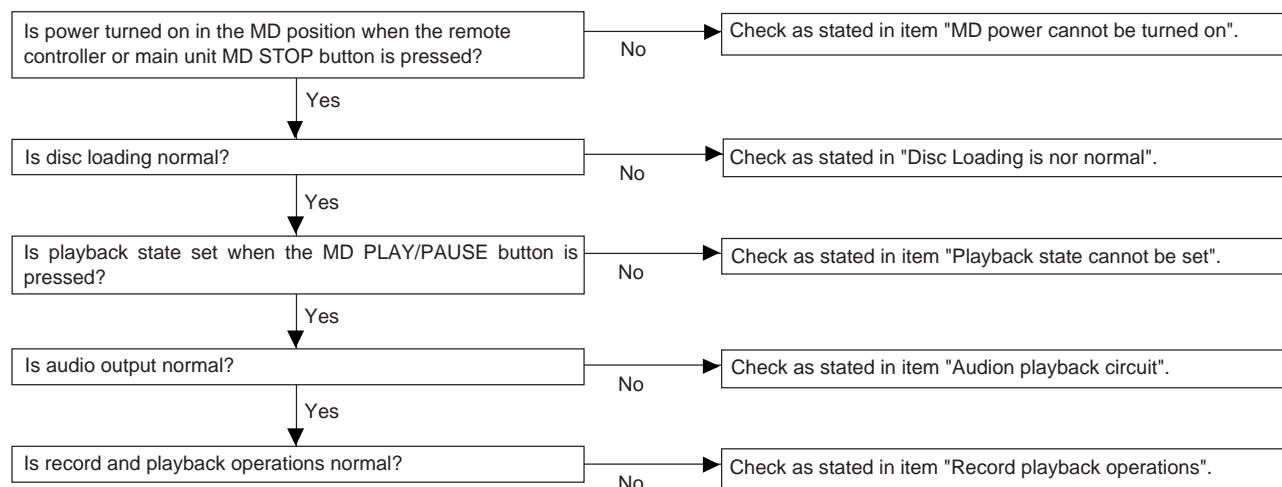
## TROUBLE SHOOTING (MD SECTION)

### When MD fails to operate

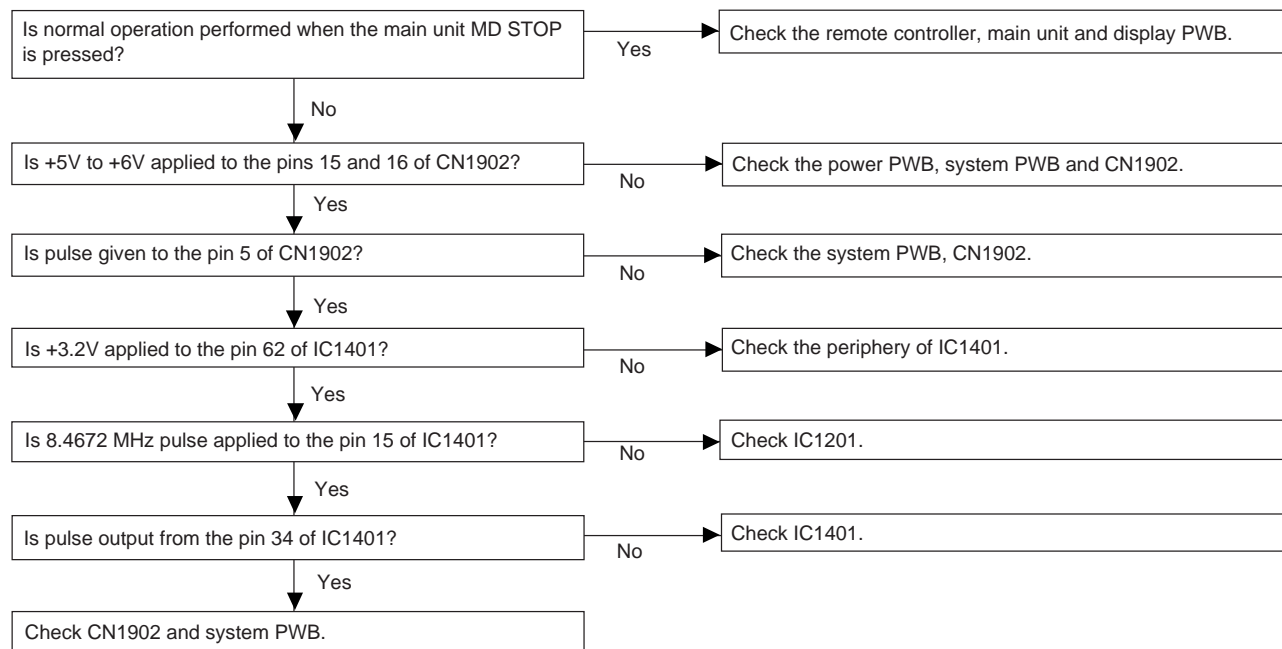
If the objective lens of optical pickup is contaminated, MD may fail to operate. At first, clean the objective lens to check playback operation. If MD fails persistently to operate, perform checks as follows.

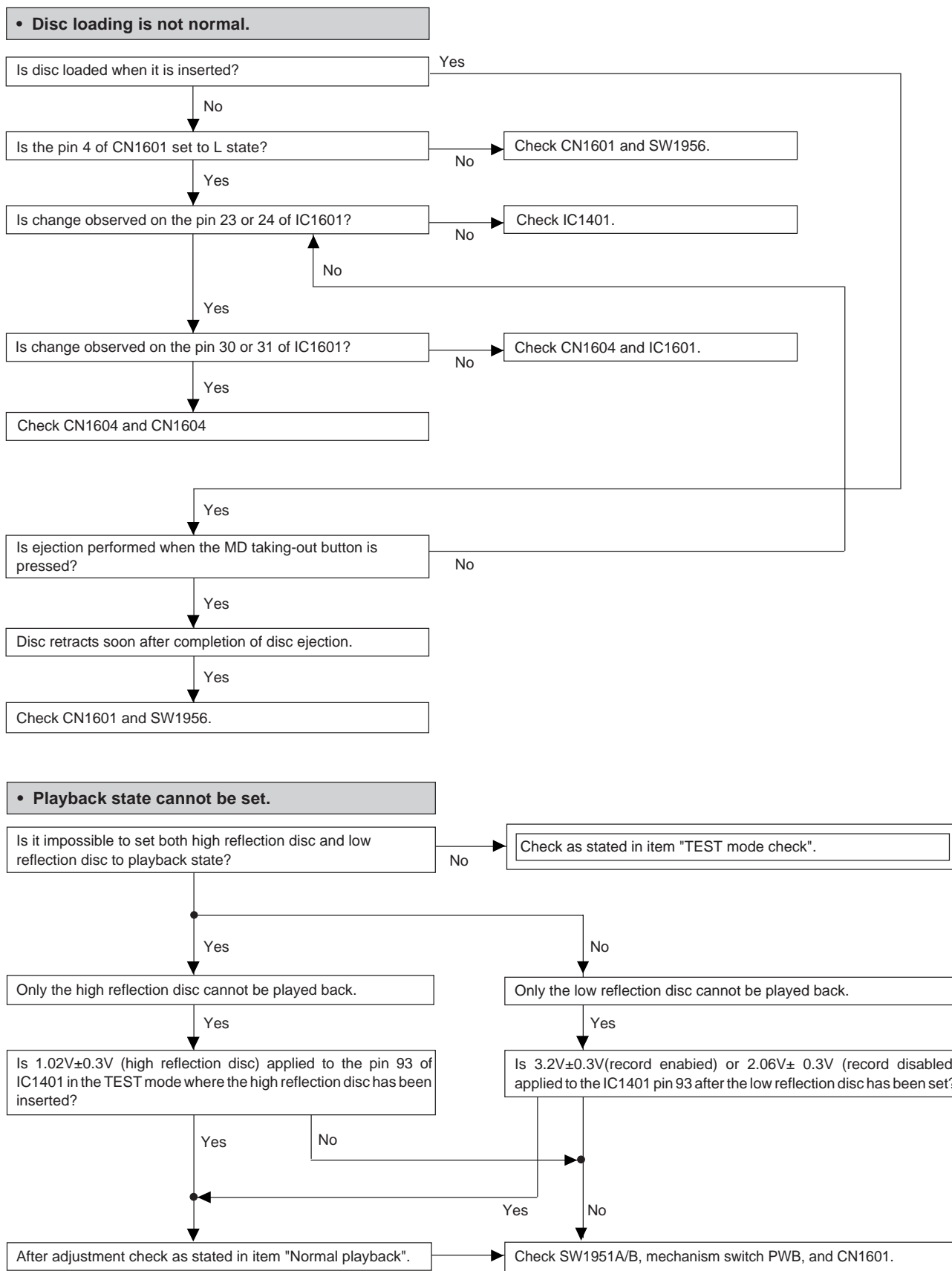
If dust or foreign substance is accumulated on the pickup lens, playback is disturbed and indication of TOC (content of tracks) may be disabled. Before adjusting check that the lens is clean. If the lens is contaminated, treat it as follows.

Turn off power supply, impregnate the lens cleaning paper with a small quantity of isopropyl alcohol, and gently wipe the lens with it with due care so that the lens is not damaged. At this time do not touch the lens directly with your finger.



### • MD power cannot be turned on.



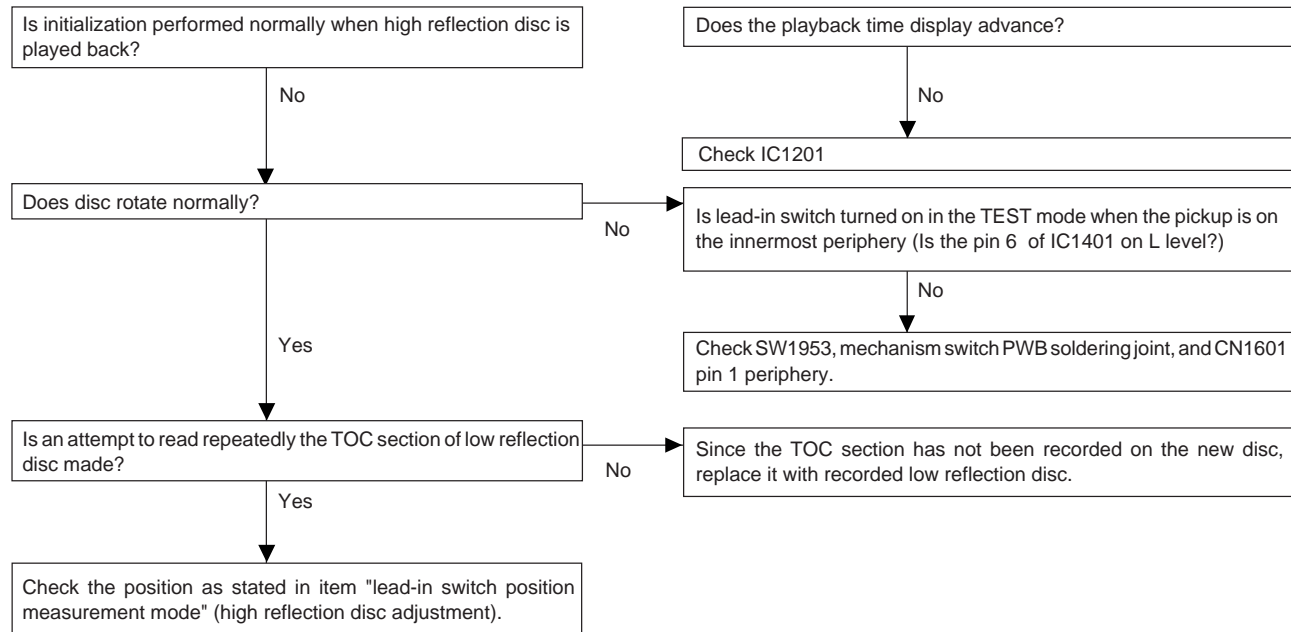




## MD-X60

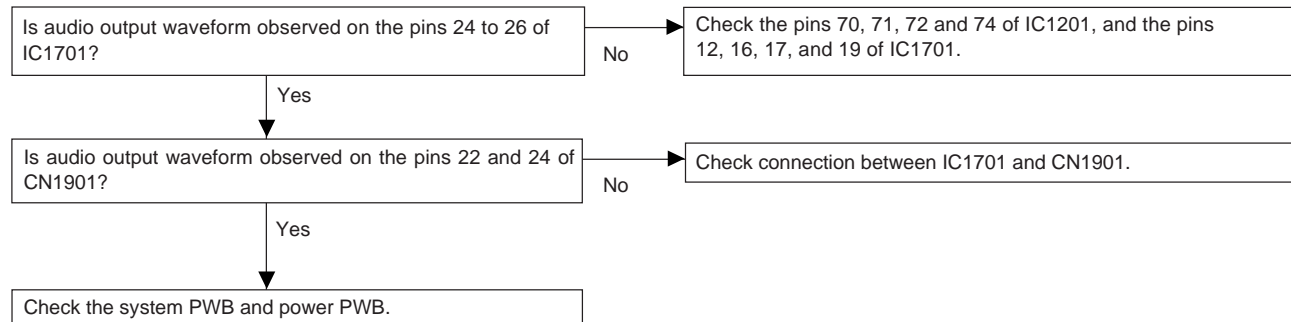
### • Normal playback

When it has been confirmed that EEPROM value is normal in the TEST mode



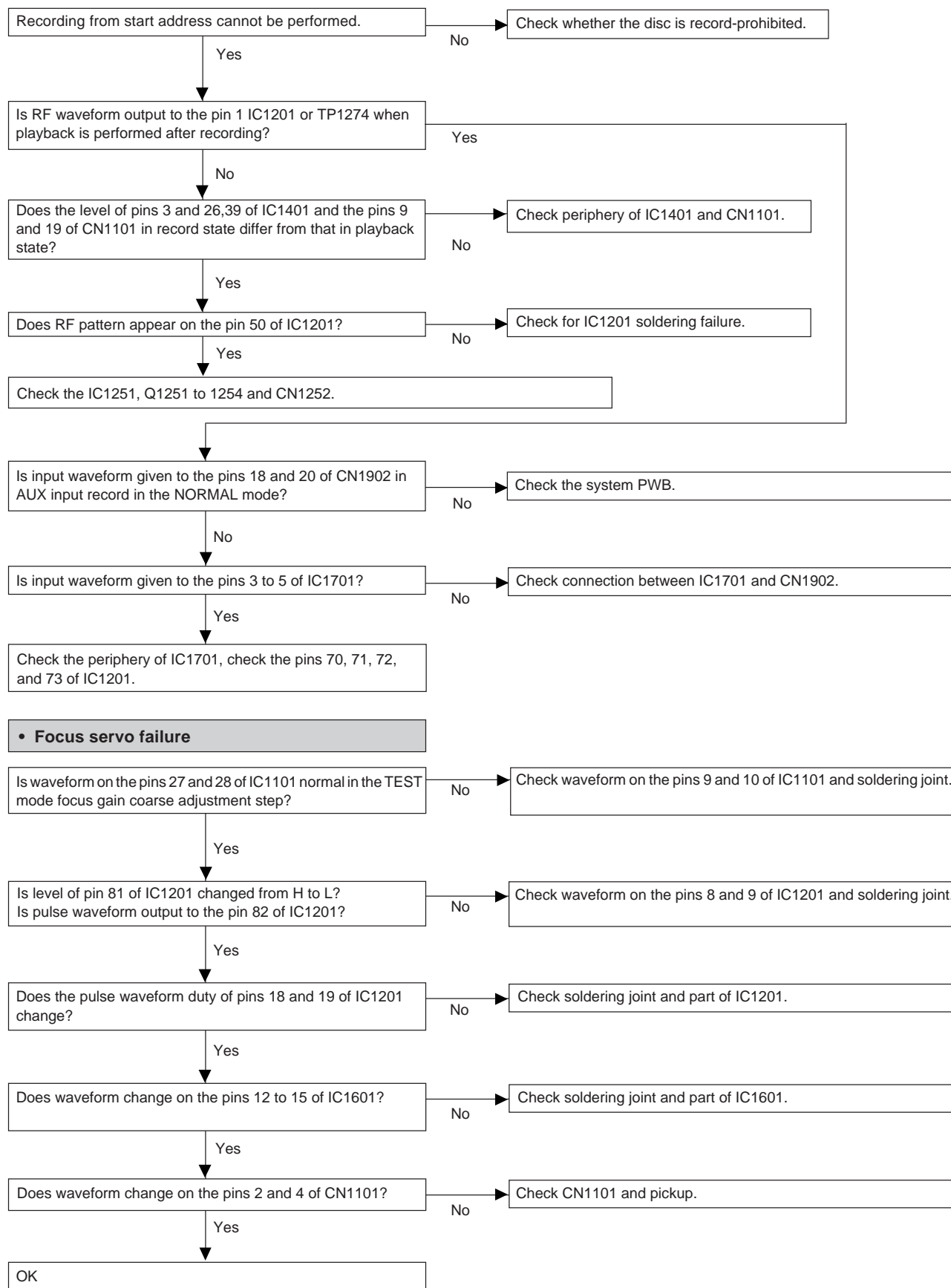
### • Audio playback circuit

When sound is not output although the playback time display advances during playback in the normal mode.



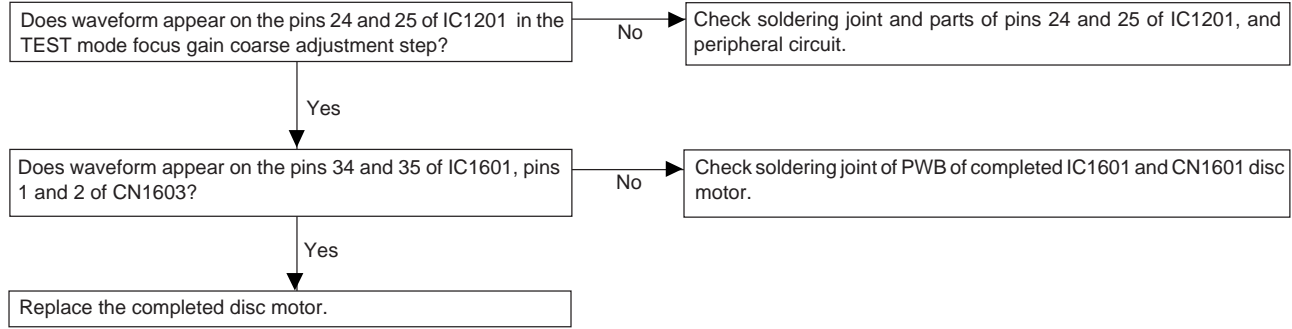
### • Record and playback operation

Insert the low reflection disc, and after verifying the audio output in the normal mode playback set the record/playback TEST mode

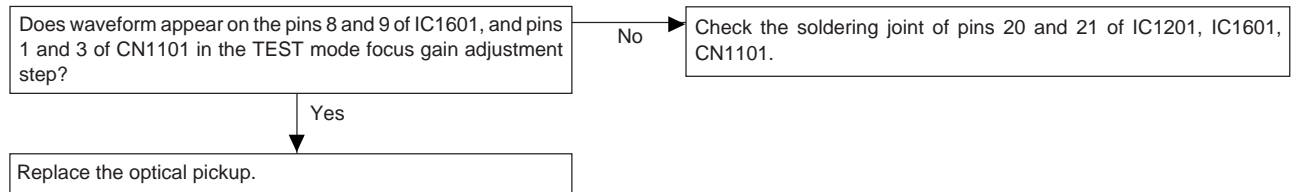


## MD-X60

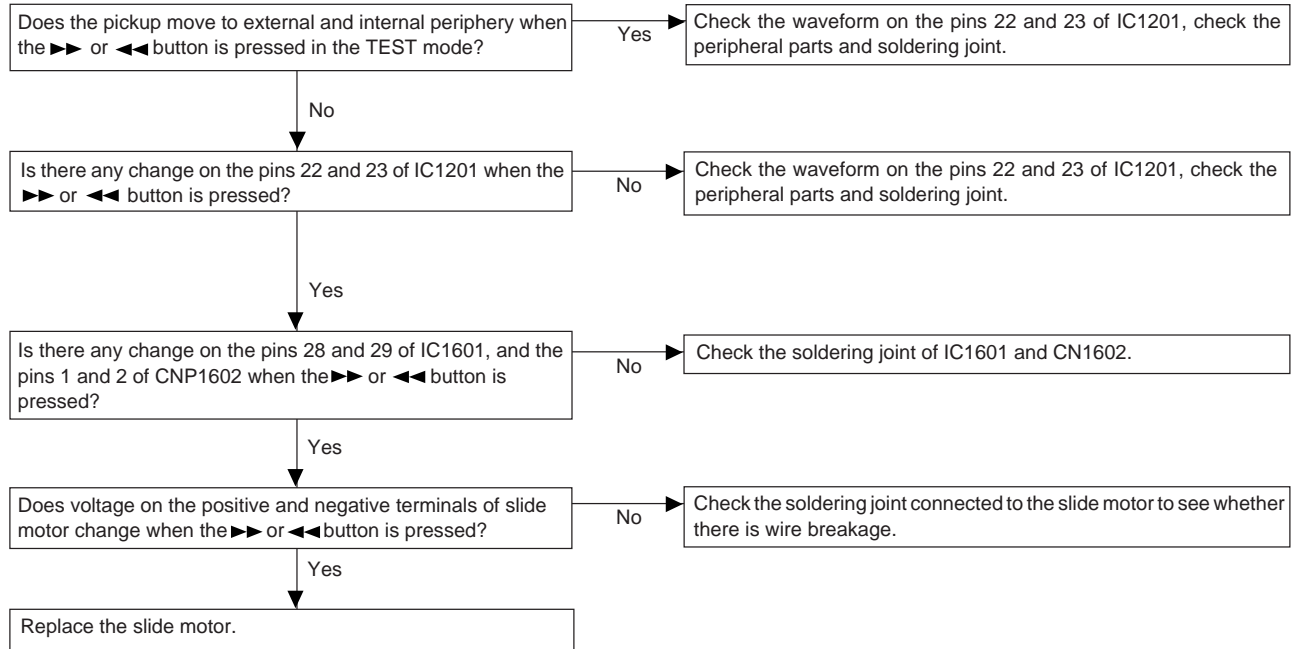
### • Disc motor fails to run



### • Tracking servo failure



### • Slide servo failure



## FUNCTION TABLE OF IC

## IC901 RH-iX2757AFZZ: System Control Micon (1/4)

Pin No.	Terminal Name	Port Name	Input/Output	Active Level	Setting in Reset	Function
1	SOL	P60/A16	Output	H	L	TAPE mechanism solenoid control. "H" state: Solenoid ON
2	MOTOR	P61/A17	Output	H	L	TAPE mechanism motor control. "H" state: Motor drive
3*	Not used	P62/A18	Output	—	—	Open
4	V.LOAD	P63/A19	Output	L	H	Selection of voltage 6.5V/5V to be supplied to MD Usually L Only when MD is set to LOAD or EJECT mode, "H" is set, selecting the 6.5 V line.
5	RESET	P64/RD	Output	H	L	Reset signal for MD microcomputer
6	S-ID	P65/WR	Output	H	L	Track mark signal for MD and MD ON/OFF control signal.
7	LOAD	P66/WAIT	Output	H	—	MD loading SW detection. DISC IN: H
8	SYN	P67/ASTB	Output	H	L	Syncro signal in case of MD syncro REC
9	—	VDD	—	—	—	To be connected to VDD
10	EEP DO	P100 T15/T05	Input	L/H	—	Serial data input into EEPROM (S29194A) At the EEPROM side, data is output at the H edge. The TUNER preset is set in the backup memory.
11	EEP DI	P101 T16/T06	Output	L/H	L	Output of serial data to EEPROM (S29194A) At the EEPROM side, data is taken in at the H edge.
12	EEP SK	P102 T17/T07	Output	H	L	Output of serial clock to EEPROM (S29194A) Usually 27 clock one communication. Address 8-bit. Data 16-bit
13	EEP CS	P103 T18/T08	Output	H	L	Output of chip selection to EEPROM (S29194A)
14	DATA	P30/T00	Output	L/H	L	Output of 12-bit serial data to serial parallel conversion element MSB fast transmission
15	CLK	P31/T01	Output	L	H	Output of 12-bit serial clock to serial parallel conversion element At the serial parallel conversion element side, data is taken in at the H edge.
16	LCK1	P32/T02	Output	H	L	Latch clock to serial parallel conversion element 1. H pulse output At the serial parallel conversion element side, signal is output to the port at the H edge.
17	LCK2	P33/T11	Output	H	L	Latch clock to serial parallel conversion element 2. H pulse output At the serial parallel conversion element side, signal is output to the port at the H edge.
18	LCK3	P34/T12	Output	H	L	Latch clock to serial parallel conversion element 3. H pulse output At the serial parallel conversion element side, signal is output to the port at the H edge.
19	POWER	P35/T100	Output	H	L	Power ON/OFF control. ON: H Output paper, OFF: L output
20	RLY	P36/T101	Output	H	L	Relay ON/OFF control ON: H output paper OFF: L output
21	FAN MOTOR	P37	Output	H	L	Heat radiation fan motor control H output according to AN14 posister input A/D
22	—	TEST/VPP	—	—	—	Flash ROM writing VPP terminal
23	MOTOR VOLTAGE	P90	Output	L	H	Cam motor voltage control. Nch open drain
24	CAM MOTOR FOWARD ROTATION	P91	Output	L	H	TA7291S IN2 control. Refer to the true value table. For Nch open drain, the external pull-up is required.
25	CAM MOTOR REVERSE ROTATION	P92	Output	L	H	TA7291S IN1 control. Refer to the true value table. For Nch open drain, the external pull-up is required.
26	TRAY MOTOR	P93	Output	L	H	TA7291S IN2 control. Refer to the true value table. For Nch open drain, the external pull-up is required.

In this unit, the terminal with asterisk mark (\*) is (open) terminal which is not connected to the outside.

# MD-X60

## IC901 RH-iX2757AFZZ: System Control Micon (2/4)

Pin No.	Terminal Name	Port Name	Input/Output	Active Level	Setting in Reset	Function																																								
27	TRAY MOTOR	P94	Output	L	H	TA7291S IN1 control. Refer to the true value table. For Nch open drain, the external pull-up is required <table><tr><th colspan="2">INPUT</th><th colspan="2">OUTPUT</th><th rowspan="2">MODE</th></tr><tr><th>IN1</th><th>IN2</th><th>OUT1</th><th>OUT2</th></tr><tr><td>0</td><td>0</td><td>∞</td><td>∞</td><td>STOP</td></tr><tr><td>1</td><td>0</td><td>H</td><td>L</td><td>CW(FORWARD)</td></tr><tr><td>0</td><td>1</td><td>L</td><td>H</td><td>CCW(REVERSE)</td></tr><tr><td>1</td><td>1</td><td>L</td><td>L</td><td>BRAKE</td></tr></table>	INPUT		OUTPUT		MODE	IN1	IN2	OUT1	OUT2	0	0	∞	∞	STOP	1	0	H	L	CW(FORWARD)	0	1	L	H	CCW(REVERSE)	1	1	L	L	BRAKE											
INPUT		OUTPUT		MODE																																										
IN1	IN2	OUT1	OUT2																																											
0	0	∞	∞	STOP																																										
1	0	H	L	CW(FORWARD)																																										
0	1	L	H	CCW(REVERSE)																																										
1	1	L	L	BRAKE																																										
28	FLD RESET	P95	Output	L	L	Reset output to M35500AFP/M66004FP																																								
29	CAM SW1	P120/RTP0	Input	L	—	Detection input of cam SW1 to cam SW4 L: SW ON H: SW OFF																																								
30	CAM SW2	P121/RTP1	Input	L	—	14 cam positions (drum positions) are detected by using the combination of SW1 to 4.																																								
31	CAM SW3	P122/RTP2	Input	L	—																																									
32	CAM SW4	P123/RTP3	Input	L	—																																									
33	CAM SW-A	P124/RTP4	Input	H	—	Main tray OPEN completion detection SW input H: SW OFF (OPEN completion state) L: SW ON (other state) The CLOSE function is given with this SW when the tray lid is pressed.Main tray OPEN completion detection SW input																																								
34	CAM SW-B	P125/RTP5	Input	L	—	Main tray CLOSE completion detection SW input L: SW ON (CLOSE completion state) H: SW OFF (other state)																																								
35	CAM SW-C	P126/RTP6	Input	L	—	Sub-tray storage completion detection SW input L: SW ON (storage completion state) H: SW OFF (other state)																																								
36	CAM SW-D	P127/RTP7	Input	H	—	Sub-tray SET completion detection SW input H: SW OFF (SET completion state) L: SW ON (other state)																																								
37	—	VDD	—	—	—	Connected to VDD																																								
38	MAIN CLK	X2	—	—	—	6 Mhz sera-lock																																								
39	MAIN CLK	X1	Input	—	—	6 Mhz sera-lock																																								
40	—	VSS	—	—	—	Ground potential To be connected to VSS																																								
41	SUB CLK	XT2	—	—	—	32.768 kHz crystal																																								
42	SUB CLK	XT1	Input	—	—	32.768 kHz crystal																																								
43	RESET	RESET	Input	L	H	Reset input																																								
44	RX IN	P00/INTP0	Input	L	H	Remote control input																																								
45	PROTECT	P01/INTP1	Input	L	H	POWER AMP state abnormal detection input. Abnormal sate: L																																								
46	NAME IN	P02/INTP2 NM1	Input	L	H	TEXT input from external MD																																								
47	SPEANA-A	P03/INTP3	Output	L/H	L	Control of MPX part of BA3835S <table><tr><th colspan="4">BA3835S</th></tr><tr><th>A</th><th>B</th><th>C</th><th>AOUT</th></tr><tr><td>L</td><td>L</td><td>L</td><td>GND</td></tr><tr><td>L</td><td>L</td><td>H</td><td>105Hz</td></tr><tr><td>L</td><td>H</td><td>L</td><td>340Hz</td></tr><tr><td>L</td><td>H</td><td>H</td><td>GND</td></tr><tr><td>H</td><td>L</td><td>L</td><td>1kHz</td></tr><tr><td>H</td><td>L</td><td>H</td><td>GND</td></tr><tr><td>H</td><td>H</td><td>L</td><td>3.4kHz</td></tr><tr><td>H</td><td>H</td><td>H</td><td>10.5kHz</td></tr></table>	BA3835S				A	B	C	AOUT	L	L	L	GND	L	L	H	105Hz	L	H	L	340Hz	L	H	H	GND	H	L	L	1kHz	H	L	H	GND	H	H	L	3.4kHz	H	H	H	10.5kHz
BA3835S																																														
A	B	C	AOUT																																											
L	L	L	GND																																											
L	L	H	105Hz																																											
L	H	L	340Hz																																											
L	H	H	GND																																											
H	L	L	1kHz																																											
H	L	H	GND																																											
H	H	L	3.4kHz																																											
H	H	H	10.5kHz																																											
48	SPEANA-B	P04/INTP4	Output	L/H	L																																									
49	SPEANA-C	P05/INTP5	Output	L/H	L																																									
50	DSTB	P06/INTP6	Input	L/H	L	Strobe input from MD microcomputer. Interruption input																																								
51	—	AVDD	—	—	—	A/D converter analog power supply. To be connected to VDD																																								
52	—	AVREFO	Input	—	—	A/D converter reference voltage input. To be connected toVDD..																																								

In this unit, the terminal with asterisk mark (\*) is (open) terminal which is not connected to the outside.

## IC901 RH-iX2757AFZZ: System Control Micon (3/4)

Pin No.	Terminal Name	Port Name	Input/Output	Active Level	Setting in Reset	Function
53	SPEANA-Lch	P10/ANI0	Input	–	–	AOUT input of Lch side BA3835S. A/D input
54	SPEANA-Lch	P11/ANI1	Input	–	–	AUTO input of Rch side BA3835S. A/D input
55	JOG-A	P12/ANI2	Input	L	H	JOG input A. Port input. External PUL-UP is required.
56	JOG-B	P13/ANI3	Input	L	H	JOG input B. Port input. External PUL-UP is required.
57	POSISTER	P14/ANI4	Input	–	–	POWER IC posister value detection. A/D input
58	Initial Setting	P14/ANI5	Input	–	–	Setting of destination with A/D value
59	SPAN Slection	P14/ANI6	Input	L/H	–	TUNER span selection. Port input
60	VSM	P14/ANI7	Input	–	–	Input of intensity of electric field in state of RDS ASPM with A/D value
61	–	AVSS	Input	–	–	A/D converter ground potential. To be connected to VSS
62	FLD CS1	P130/AN00	Output	L	H	FL driver. M35500AFP chip selection output
63	FLD CS2	P131/AN01	Output	L	H	FL driver. M66004FP chip selection output
64	–	AVREF1	Input	–	H	D/A converter reference voltage input. To be connected to VDD.
65	FLD A/D IN	P70/RXD2 SI2	Input	L/H	–	Serial data input from FL driver M35500AFP Taking-in of key input with 6 byte A/D value
66	FLD DATA	P71/RXD2 SO2	Output	L/H	L	Serial data output to M35500AFP/M66004FP Indication data output
67	FLD SCLK	P72/ASCK2 SCK2	Output	L	H	Serial clock output to M35500AFP/M66004FP
68	MD-DATA	P20/RXD1 SI1	Input	L/H	–	Serial data input from MD microcomputer
69	K-DATA	P21/TXD1 SO1	Output	L/H	H	Serial data output to MD microcomputer
70	DSCK	P22/ASCK1 SCK1	Output	L	H	Serial clock output to MD microcomputer
71	RES	P23/PCL	Output	L	H	Reset output to CD DSP element
72	RWC	P24/BUZ	Output	L/H	H	READ/WRITE control output to CD DSP element
73	SQOUT	P25/SI0	Input	L/H	–	Serial input of sub-code data Q from CD DSP
74	COIN	P26/SO0	Output	L/H	H	Serial output of command data to CD DSP
75	CQCK	P27/SCK0	Output	L	H	Serial clock output to CD DSP
76	WRQ	P80/A0	Input	H	L	Sub-code Q output standby input
77	DRF	P81/A1	Input	H	L	RF level detection input. (DETECT RF)
78	SL+	P82/A2	Output	H	L	Slide feed signal output +
79	SL-	P83/A3	Output	H	L	Slide feed signal output -
80	PU IN	P84/A4	Intput	L	L	Pickup innermost periphery detection SW input. Innermost periphery: L
81*	HS	P85/A5	Output	H	L	CD x2 speed control output. x2 speed: H output, Usual speed: L output
82*	C.MUTE	P86/A6	Output	–	L	
83	L.MUTE	P87/A7	Output	H	H	AUDIO system line mute output ON: H output, OFF: L output
84	CCB-CE	P40/AD0	Output	L	H	Chip enable output to AUDIO/PLL/RDS element of CCB communication
85	CCB-DO	P41/AD1	Input	L/H	–	serial data input from PLL/RDS element of CCB communication
86	CCB-DI	P42/AD2	Output	L/H	H	serial data output to AUDIO/PLL/RDS element of CCB communication
87	CCB-CL	P43/AD3	Output	L	H	Serial clock output to AUDIO/PLL/RDS element of CCB communication
88	S.MUTE	P44/AD4	Output	H	H	AUDIO system mute output
89*	Not Used	P45/AD5	Output	–	L	
90*	Not Used	P46/AD6	Output	–	L	
91	TUNER MUTE	P47/AD7	Output	H	H	TUNER MUTE control ON: H output, OFF: L output
92	SD	P50/A8	Input	L	H	SD input in case of TUNER AUTO SCAN

In this unit, the terminal with asterisk mark (\*) is (open) terminal which is not connected to the outside.

## MD-X60

### IC901 RH-iX2757AFZZ: System Control Micon (4/4)

Pin No.	Terminal Name	Port Name	Input/Output	Active Level	Setting in Reset	Function
93	APSS Detection	P51/A9	Input	H	H	Detection of APSS signal. Detection by switching L to H only in APSS operation mode.
94	RUN PULSE	P52/A10	Input	—	—	Tape end detection. Repeated input of L->H->L->H during tape running.
95	Side B FP SW	P53/A11	Input	L	—	Detection of B side record enabling/disabling "L": Record is enabled if SW is ON.
96	Side A FP SW	P54/A12	Input	L	—	Detection of A side record enabling/disabling "L": Record is enabled if SW is ON.
97	Cassette SW	P55/A13	Input	L	—	Cassette detection. "L": Cassette exists if SW is ON. "H": Cassette does not exist if SW ON.
98	CrO2 SW	P56/A14	Input	L	—	CrO2 tape detection. "H": CrO2 tape exists if SW is OFF. "L": Normal tape exists if SW is ON.
99	MAIN SW	P57/A15	Input	L	—	Mechanism operation detection. "H": Any state other than STOP state if SW is ON. "L": STOP state if SW is ON.
100	—	VSS	—	—	—	Ground potential. Connected to VSS.

In this unit, the terminal with asterisk mark (\*) is (open) terminal which is not connected to the outside.

### IC501 VHiLC75396E-1 (LC75396E): Audio Processor

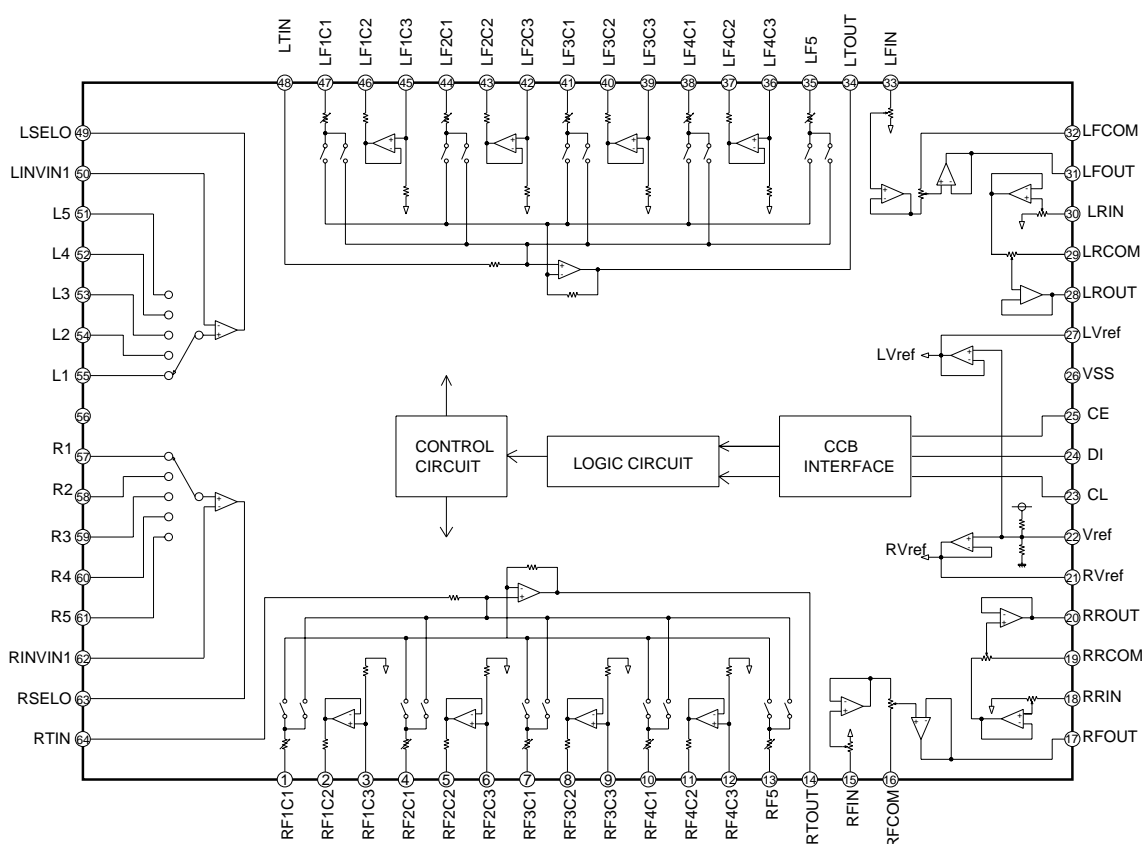


Figure 78 BLOCK DIAGRAM OF IC



IC951,952 VHiBA3835F/-1 (BA3835F):Speana,Band Pass Filter

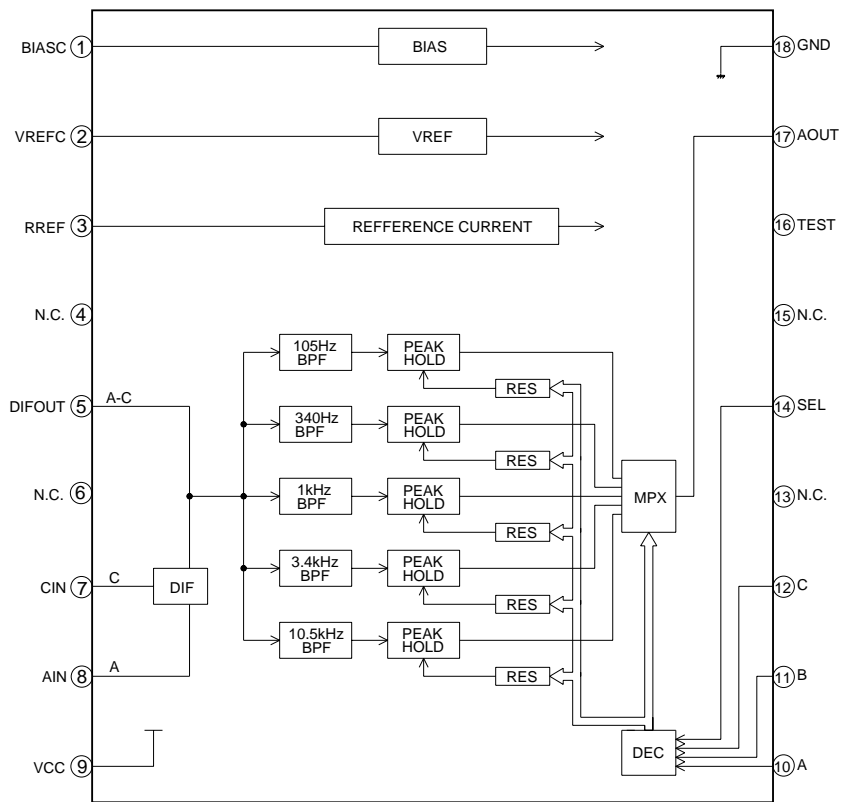


Figure 79-1 BLOCK DIAGRAM OF IC

FL711 VVKCK1671M/-1

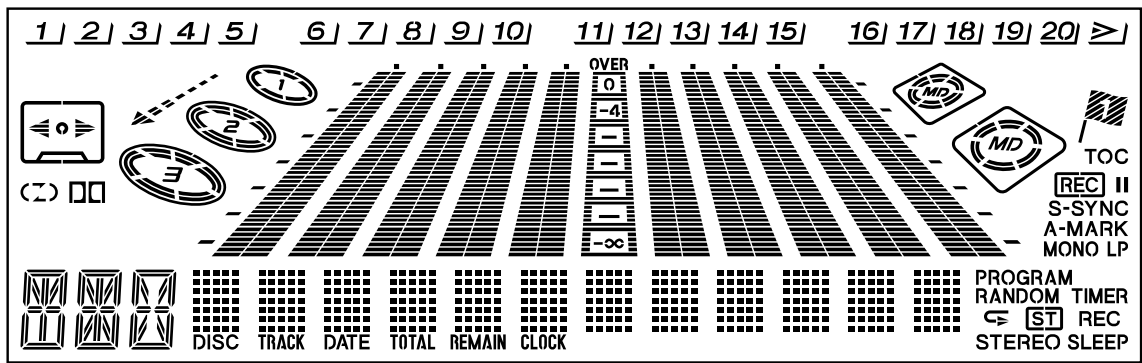


Figure 79-2 LCD SEGMENT

**MD-X60**

**MEMO**

# SHARP PARTS GUIDE

MODEL **MD-X60**

**“HOW TO ORDER REPLACEMENT PARTS”**

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. No.
3. PART NO.
4. DESCRIPTION

★ MARK: SPARE PARTS-DELIVERY SECTION

**For U.S.A. only**

Contact your nearest SHARP Parts Distributor to order.

For location of SHARP Parts Distributor,  
Please call Toll-Free;  
1-800-BE-SHARP

## Explanation of capacitors/resistors parts codes

**Capacitors**

- VCC ..... Ceramic type
- VCK ..... Ceramic type
- VCT ..... Semiconductor type
- VC •• MF ..... Cylindrical type (without lead wire)
- VC •• MN ..... Cylindrical type (without lead wire)
- VC •• TV ..... Square type (without lead wire)
- VC •• TQ ..... Square type (without lead wire)
- VC •• CY ..... Square type (without lead wire)
- VC •• CZ ..... Square type (without lead wire)
- VC •••••••• J .. The 13th character represents capacity difference.  
("J" ±5%, "K" ±10%, "M" ±20%, "N" ±30%,  
"C" ±0.25 pF, "D" ±0.5 pF, "Z" +80-20%.)

If there are no indications for the electrolytic capacitors, error is ±20%.

**Resistors**

- VRD ..... Carbon-film type
- VRS ..... Carbon-film type
- VRN ..... Metal-film type
- VR •• MF ..... Cylindrical type (without lead wire)
- VR •• MN ..... Cylindrical type (without lead wire)
- VR •• TV ..... Square type (without lead wire)
- VR •• TQ ..... Square type (without lead wire)
- VR •• CY ..... Square type (without lead wire)
- VR •• CZ ..... Square type (without lead wire)
- VR •••••••• J .. The 13th character represents error.  
("J" ±5%, "F" ±1%, "D" ±0.5%.)

If there are no indications for other parts, the resistors are ±5% carbon-film type.

**NOTE:**

Parts marked with “△” are important for maintaining the safety of the set.  
Be sure to replace parts with specified ones for maintaining the safety and performance of the set.

NO.	PART CODE	★ PRICE RANK	DESCRIPTION
<b>INTEGRATED CIRCUITS</b>			
IC1	VHILA9241M/-1	J AS	Servo Amp.,LA9241M
IC2	VHILC78625E-1	J BA	Servo/Signal Control,LC78625E
IC5	VHIM56748FP-1	J AR	Focus/Tracking/Spin/Slide Driver,M56748FP
IC91	VHITA7291S/-1	J AH	Tray Motor Driver,TA7291S
IC92	VHITA7291S/-1	J AH	Main Cam Motor Driver, TA7291S
IC101	VHIM51167BFP1	J AL	Equalizer AMP M51167BFP1
IC102	VHIBA3126N/-1	J AF	Head Selector,BA3126N
IC103	VHIIHA12134AF1	J AK	Dolby NR,HA12134AF
IC201	VHISTK40705-1	J BA	Power Amp.,STK40705
IC302	VHILC72131/-1	J AP	PLL (Tuner) LC72131
IC303	VHILA1832S/-1	J AN	FM IF Det./FM Mpx./ AM IF, LA1832S
IC401	VHIBU4066BCF1	J AD	AUX1/AUX2 Input Selector, BU4066BCF
IC501	VHILC75396E-1	J AT	Audio Processor,LC75396E
IC552	VHINJM4565M-1	J AC	Buffer Amp.,NJM4565M
IC710	VHITC7WU04F-1	J AD	PC Control,TC7WU04F
IC711	VHIM35500AF-1	J AM	FL Driver,M35500AF
IC712	RH-IX0069AWZZ	J BA	FL Driver,IX0069AW
IC771	VHIBU2092F/-1	J AM	Input/Output Expander, BU2092F
IC901	RH-IX2757AFZZ	J	System Control Microcomputer, IX2757AF
IC902	VHIPST9140/-1	J AG	Reset,PST9140
IC903	VHIS29194A/-1	J AG	EEPROM,S29194A
IC911,912	VHIBU2092F/-1	J AM	Input/Output Expander, BU2092F
IC921	VHI74HC00F/-1	J AD	NAND Gate,74HC00F
IC951,952	VHIBA3835F/-1	J AS	Band Pass Filter,BA3835F
IC1101	VHIIIR3R55/-1	J AQ	RF Signal,Processor,IR3R55
IC1201	VHILR376481-1	J BD	ENDEC,LR376481
IC1202	RH-IX2474AFZZ	J BF	4Mbit D-RAM,IX2474AF
IC1251	VHI74ACT02F-1	J AF	Head Driver,74ACT02F
IC1401	RH-IX0246AWZZ	J BA	MD System Microcomputer, IX0246AW
IC1402	VHIS29294A/-1	J AH	EEPROM,S29294A
IC1601	VHIM56758FP-1	J AM	5-CH Motor Driver,M56758FP
IC1701	VHIUDA1340/-1	J BA	AD/DA Converter,UDA1340
IC1801	VHIXC62EP32-1	J AE	Regulator,XC62EP32
IC1802	VHINJM431U/-1	J AE	Regulator,NJM431U
IC1906	VHITC7ST08F-1	J AE	Invertor,TC7ST08F
IC1907	VHITC9246F/-1	J AM	Invertor,TC9246F
IC1916	VHI74VHC08FT1	J AF	AND Gate,74VHC08FT
IC1990	VHI74AC04FS-1	J AF	μP Converter,74AC04FS

## TRANSISTORS

Q1	VSKTA1266GR-1	J AB	Silicon,PNP,KTA1266 GR
Q81	VS2SD468-C/-1	J AD	Silicon,NPN,2SD468 C
Q101,102	VSDTC144EK/-1	J AB	Digital,NPN,DTC144 EK
Q103,104	VS2SC2412KR-1	J AB	Silicon,NPN,2SC2412 KR
Q105	VS2SB561-C/-1	J AC	Silicon,PNP,2SB561 C
Q106	VSKRA107S/-1	J AB	Digital,NPN,KRA107 S
Q107	VSDTC144EK/-1	J AB	Digital,NPN,DTC144 EK
Q108	VS2SB561-C/-1	J AC	Silicon,PNP,2SB561 C
Q109	VS2SC2412KR-1	J AB	Silicon,NPN,2SC2412 KR
Q110	VS2SC3242-G-1	J AC	Silicon,NPN,2SC3242 G
Q111,112	VSDTC143TK/-1	J AB	Digital,NPN,DTC143 TK
Q113,114	VS2SJ103GR/-1	J AC	FET,2SJ103 GR
Q115,116	VSKRC107S/-1	J AB	Digital,NPN,KRC107 S
Q117	VS2SB561-C/-1	J AC	Silicon,PNP,2SB561 C
Q118	VSKRC107S/-1	J AB	Digital,NPN,KRC107 S
Q119	VS2SB561-C/-1	J AC	Silicon,PNP,2SB561 C
Q201	VSKRC107M/-1	J AC	Digital,NPN,KRC107 M
Q251,252	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q253	VS2SB1238R/-1	J AD	Silicon,PNP,2SB1238 R
Q260	VSKRC107M/-1	J AC	Digital,NPN,KRC107 M
Q271	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q272	VS2SA562-Y/-1	J AC	Silicon,PNP,2SA562 Y
Q273	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q274	VSKRC107M/-1	J AC	Digital,NPN,KRC107 M
Q297,298	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q301	VS2SC380-O/-1	J AC	Silicon,NPN,2SC380 O
Q353,354	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q360	VSKTA1266GR-1	J AB	Silicon,PNP,KTA1266 GR
Q361	VSKRC107M/-1	J AC	Digital,NPN,KRC107 M
Q371	VSKTA1266GR-1	J AB	Silicon,PNP,KTA1266 GR
Q401,402	VS2SC2412KR-1	J AB	Silicon,NPN,2SC2412 KR

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
Q403	VSKRA107S/-1	J AB	Digital,NPN,KRA107 S
Q404	VSKRC107S/-1	J AB	Digital,NPN,KRC107 S
Q405	VSKRA107S/-1	J AB	Digital,NPN,KRA107 S
Q501,502	VS2SC2878A/-1	J AE	Silicon,NPN,2SC2878 A
Q701~724	VSKTC3875GR-1	J AB	Silicon,NPN,KTC3875 GR
Q801	VS2SB1565F/-1	J AG	Silicon,PNP,2SB1565 F
Q805	VS2SB1565F/-1	J AG	Silicon,PNP,2SB1565 F
Q811	VS2SD2012/-1	J AD	Silicon,NPN,2SD2012
Q820	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q821	VS2SD2012/-1	J AD	Silicon,NPN,2SD2012
Q822	VSKRC102M/-1	J AC	Digital,NPN,KRC102 M
Q823	VSKRA102M/-1	J AC	Digital,PNP,KRA102 M
Q830	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q831	VS2SD2012/-1	J AD	Silicon,NPN,2SD2012
Q840	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q841	VS2SD2012/-1	J AD	Silicon,NPN,2SD2012
Q850	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q851	VS2SD2012/-1	J AD	Silicon,NPN,2SD2012
Q860	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q861	VS2SD2012/-1	J AD	Silicon,NPN,2SD2012
Q862	VSKRC102M/-1	J AC	Digital,NPN,KRC102 M
Q863	VSKRA102M/-1	J AC	Digital,PNP,KRA102 M
Q880	VS2SD2012/-1	J AD	Silicon,NPN,2SD2012
Q881	VSKRC102M/-1	J AC	Digital,NPN,KRC102 M
Q882	VSKTC3199GR-1	J AB	Silicon,NPN,KTC3199 GR
Q946	VS2SC2412KR-1	J AB	Silicon,NPN,2SC2412 KR
Q951~953	VS2SC2412KR-1	J AB	Silicon,NPN,2SC2412 KR
Q1251,1252	VS2SK2909/-1	J AE	FET,2SK2909
Q1253,1254	VS2SK1473/-1	J AF	FET,2SK1473
Q1401	VS2RN2404/-1	J AC	Digital,PNP,RN2404
Q1402	VS2RNC1404/-1	J AB	Digital,NPN,RNC1404
Q1403	VS2RN2404/-1	J AC	Digital,PNP,RN2404
Q1404	VS2RNC1404/-1	J AB	Digital,NPN,RNC1404
Q1451	VS2RNC1407/-1	J AC	Digital,NPN,RNC1407
Q1601	VS2SA1314C/-1	J AD	Silicon,PNP,2SA1314 C
Q1701	VS2SC2412KR-1	J AB	Silicon,NPN,2SC2412 KR
Q1801	VS2SA1314C/-1	J AD	Silicon,PNP,2SA1314 C
Q1802,1803	VS2RN1406/-1	J AB	Digital,NPN,RN1406
Q1804	VS2SA1162G/-1	J AB	Silicon,PNP,2SA1162 G
Q1806	VS2RNC1404/-1	J AB	Digital,NPN,RNC1404
Q1807	VS2SA1314C/-1	J AD	Silicon,PNP,2SA1314 C
Q1820	VS2SA1162G/-1	J AB	Silicon,PNP,2SA1162 G
Q1821,1822	VS2RNC1407/-1	J AC	Digital,NPN,RNC1407

## DIODES

D2	VHD1SS133/-1	J AA	Silicon,1SS133
D3~5	VHD1N4004S/-1	J AB	Silicon,1N4004S
D102,103	VHD1SS133/-1	J AA	Silicon,1SS133
D201~203	VHD1SS133/-1	J AA	Silicon,1SS133
D205,206	VHD1SS133/-1	J AA	Silicon,1SS133
D260,261	VHD1SS133/-1	J AA	Silicon,1SS133
D270~272	VHD1SS133/-1	J AA	Silicon,1SS133
D301~304	VHD1SS133/-1	J AA	Silicon,1SS133
D351~353	VHD1SS133/-1	J AA	Silicon,1SS133
D421,422	VHD1SS133/-1	J AA	Silicon,1SS133
D501,502	VHD1SS133/-1	J AA	Silicon,1SS133
D550	VHD1SS133/-1	J AA	Silicon,1SS133
△ D801	VHDS4VB20/-1	J AG	Rectifier,S4VB20
△ D802~805	VHD1N4004S/-1	J AB	Silicon,1N4004S
△ D812~819	VHD1N4004S/-1	J AB	Silicon,1N4004S
D1251,1252	VHDSB0209CP-1	J AC	Silicon,SB0209CP-1
D1990	VHD1SS372/-1	J AD	Silicon,1SS372
J1038	VHD1N4004S/-1	J AB	Silicon,1N4004S
LED771~776	VHPKL052UL/-1	J AF	LED,KL052UL [Green]
LED777~782	VHPK5052UL/-1	J AD	LED,K5052UL [Yellow]
VD301-1,2	VHCKV1236Z23F	J AS	Variable Capacitance, KV1236Z23F
ZD81	VHEMTZJ5R6B-1	J AD	Zener,5.6V,MTZJ5.6B
ZD241	VHEMTZJ110C-1	J AA	Zener,11V,MTZJ11C
ZD271	VHEMTZJ6R2B-1	J AC	Zener,6.2V,MTZJ6.2B
ZD351	VHEMTZJ5R1B-1	J AC	Zener,5.1V,MTZJ5.1B
ZD352	VHEMTZJ3R9B-1	J AC	Zener,3.9V,MTZJ3.9B
ZD401,402	VHEMTZJ8R2B-1	J AC	Zener,8.2V,MTZJ8.2B
ZD802	VHEMTZJ360D-1	J AB	Zener,36V,MTZJ360D
ZD803	VHEMTZJ100C-1	J AC	Zener,10V,MTZJ10C
ZD810	VHEMTZJ5R6C-1	J AB	Zener,5.6V,MTZJ5.6C
ZD820	VHEMTZJ110A-1	J AA	Zener,11V,MTZJ11A
ZD821	VHEMTZJ8R2B-1	J AC	Zener,8.2V,MTZJ8.2B
ZD840	VHEMTZJ130C-1	J AB	Zener,13V,MTZJ13C
ZD851	VHEMTZJ6R8B-1	J AC	Zener,6.8V,MTZJ6.8B
ZD861	VHEMTZJ130C-1	J AB	Zener,13V,MTZJ13C

NO.	PART CODE	★ PRICE RANK	DESCRIPTION
ZD881	VHEMTZJ6R8B-1	J AC	Zener,6.8V,MTZJ6.8B
ZD882	VHEMTZJ8R2A-1	J AA	Zener,8.2V,MTZJ8.2A

## FILTERS

CF301,302	RFILF0124AFZZ	J AD	FM IF,10.7 MHz
CF351	RFILF0003AWZZ	J AK	FM IF
CF352	RFILA0009AWZZ	J AE	AM IF

## TRANSFORMERS

T302	RCILA1064AFZZ	J AD	MW Antenna
T306	RCILB1074AFZZ	J AC	OSC,MW
T351	RCILI0011AWZZ	J AD	AM IF
△ T801	RTRNP0226AWZZ	J	Power

## COILS

JC170,171	RCILZ2134SCZZ	J	Impeder,Z2134SC
JC196	RCILZ2134SCZZ	J	Impeder,Z2134SC
L101	VP-MK331K0000	J AB	330 µH,Choke
L103,104	RCILC0094AFZZ	J AD	6.8 mH
L105	VP-YF470K0000	J AB	47 µH,Choke
L203,204	RCILZ0254AFZZ	J AE	3 µH,Trap
L342	VP-DH2R2K0000	J AB	2.2 µH,Peaking
L351,352	VP-DH101K0000	J AB	100 µH,Choke
L353	VP-DH102K0000	J AB	1 mH,Choke
L401,402	VP-DH2R2M0000	J AB	2.2 µH,Choke
L410	VP-DH2R2M0000	J AB	2.2 µH,Choke
L421~423	VP-DH2R2M0000	J AB	2.2 µH,Choke
L541,542	92LCOILZ1756A	J AF	Low Pass Filter
L601	VP-DH2R2M0000	J AB	2.2 µH,Choke
L631	VP-DH2R2M0000	J AB	2.2 µH,Choke
L731~733	VP-DH470K0000	J AB	47 µH,Choke
L901	VP-DH2R2M0000	J AB	2.2 µH,Choke
L911,912	VP-DH2R2M0000	J AB	2.2 µH,Choke
L1101	VPBNN100K0000	J AC	10 µH
L1102	VPBNNR47K0000	J AC	0.47 µH
L1201	VPBNNR47K0000	J AC	0.47 µH
L1203	VPBNN4R7K0000	J AC	4.7 µH
L1251	VP-NM470K0000	J AC	47 µH
L1601	RCILZ0016AWZZ	J AD	1 µH
L1701,1702	VPBNN100K0000	J AC	10 µH
L1950	RCILZ0016AWZZ	J AD	1 µH
LR190	VPBNN4R7K0000	J AC	4.7 µH
R1947	RCILZ2134SCZZ	J	Impeder,Z2134SC

## VARIABLE RESISTORS

VR101	RVR-M0028AWZZ	J AC	22 kohms (B),Semi-VR [L-CH Rec Frequency]
VR102	RVR-M0028AWZZ	J AC	22 kohms (B),Semi-VR [R-CH Rec Frequency]
VR103	RVR-M0028AWZZ	J AC	22 kohms (B),Semi-VR [L-CH Play Sens.]
VR104	RVR-M0028AWZZ	J AC	22 kohms (B),Semi-VR [R-CH Play Sens.]
VR105	RVR-M0030AWZZ	J AC	47 kohms (B),Semi-VR [L-CH Rec.Sens.]
VR106	RVR-M0030AWZZ	J AC	47 kohms (B),Semi-VR [R-CH Rec.Sens.]
VR107	RVR-M0022AWZZ	J AC	2.2 kohms (B),Semi-VR [Tape Speed]
VR351	RVR-M0026AWZZ	J AC	10 kohm (B),Semi-VR [FM Mute Level]
VR630	RVR-B0009AWZZ	J AM	20 kohm (B),Semi-VR [Input Level]

## VIBRATORS

X351	RCRM-0028AWZZ	J AE	Ceramic,10.7 MHz
X352	RCRSP0002AWZZ	J AH	Crystal,4.5 MHz
X701	RCRM-0033AWZZ	J AF	Ceramic,8 MHz
X901	RCRM-0032AWZZ	J	Ceramic,6 MHz
X902	RCRSP0051AWZZ	J	Crystal,32.768 kHz
XL1	RCRSP0005AWZZ	J AF	Crystal,16.934 MHz
XL1201	RCRSC0001AWZZ	J AL	Crystal,33.8688 MHz

## THERMISTOR

△ FR896	RH-QX0003AWZZ	J AK	Posistor,2.2 ohms
△ J82	RH-QX0002AWZZ	J AK	Posistor,0.7 ohms

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
RP101	RH-QX0003AWZZ	J AK	Posistor,2.2 ohms
△ RP811	RH-QX0008AWZZ	J AF	Posistor,0.9 ohms
△ RP821	RH-QX0002AWZZ	J AK	Posistor,0.7 ohms
△ RP841	RH-QX0003AWZZ	J AK	Posistor,2.2 ohms
△ RP870	RH-QX0002AWZZ	J AK	Posistor,0.7 ohms
△ RP880	RH-QX0003AWZZ	J AK	Posistor,2.2 ohms
TH1	VHH4G42104E-1	J AE	Thermistor,Positive/Negative C

## CAPACITORS

C2	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C3	VCEAZA1HW104M	J AB	0.1 µF,50V,Electrolytic
C4	VCKYTV1HB102K	J AA	0.001 µF,50V
C5,6	VCKYTV1HB333K	J AA	0.033 µF,50V
C7	VCEAZA1HW104M	J AB	0.1 µF,50V,Electrolytic
C8	VCKYTV1CB683K	J AB	0.068 µF,16V
C9	VCKYTV1HB473K	J AA	0.047 µF,50V
C10	VCCCTV1HH181J	J AB	180 pF (CH),50V
C11	VCTYPA1HF104Z	J AB	0.1 µF,50V
C12	VCCCTV1HH331J	J AA	330 pF (CH),50V
C13	VCTYPA1CX104K	J AB	0.1 µF,16V
C14	VCKYTV1HB103K	J AA	0.01 µF,50V
C15	VCKYTV1HB472K	J AA	0.0047 µF,50V
C16	VCKYTV1HB102K	J AA	0.001 µF,50V
C17	VCEAZA1HW474M	J AB	0.47 µF,50V,Electrolytic
C18	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C19	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C20	VCKYTV1HB332K	J AA	0.0033 µF,50V
C21	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C22	VCKYTV1HB103K	J AA	0.01 µF,50V
C24	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C25	VCKYTV1HF103Z	J AA	0.01 µF,50V
C30	VCCSTV1HL1R0C	J AA	1 pF,50V
C31	VCKYTV1HB272K	J AA	0.0027 µF,50V
C32	VCCSTV1HL270J	J AA	27 pF,50V
C33	VCKYTV1HB102K	J AA	0.001 µF,50V
C34	VCTYPA1CX333K	J AA	0.033 µF,16V
C35	VCEAZA1HW104M	J AB	0.1 µF,50V,Electrolytic
C37	VCEAZA0JW227M	J AC	220 µF,6.3V,Electrolytic
C38	VCTYPA1CX103K	J AA	0.01 µF,16V
C39	VCEAZA1HW474M	J AB	0.47 µF,50V,Electrolytic
C40	VCEAZA1HW334M	J AB	0.33 µF,50V,Electrolytic
C41	VCKYPA1HF473Z	J AB	0.047 µF,50V
C42	VCKYTV1HF473Z	J AA	0.047 µF,50V
C44	VCEAZA1AW107M	J AB	100 µF,10V,Electrolytic
C45	VCEAZA1HW475M	J AB	4.7 µF,50V,Electrolytic
C46	VCKYTV1HB223K	J AA	0.022 µF,50V
C50	VCTYPA1CX104K	J AB	0.1 µF,16V
C51	VCKYTV1HF223Z	J AA	0.022 µF,50V
C52	VCEAZA1AW107M	J AB	100 µF,10V,Electrolytic
C53	VCKYPA1HB221K	J AA	220 pF,50V
C54~58	VCCCTV1HH101J	J AA	100 pF (CH),50V
C59	VCKYPA1HF223Z	J AB	0.022 µF,50V
C61	VCCCTV1HH120J	J AA	12 pF (CH),50V
C62	VCCCTV1HH150J	J AA	15 pF (CH),50V
C81	VCEAZA1AW107M	J AB	100 µF,10V,Electrolytic
C82,83	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C84	VCKYTV1HF223Z	J AA	0.022 µF,50V
C85	VCTYPA1HF104Z	J AB	0.1 µF,50V
C86,87	VCCCTV1HH101J	J AA	100 pF (CH),50V
C91	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C93	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C94	VCKYTV1HF223Z	J AA	0.022 µF,50V
C95	VCTYPA1HF104Z	J AB	0.1 µF,50V
C96,97	VCCCTV1HH101J	J AA	100 pF (CH),50V
C101,102	VCKYTV1HB561K	J AA	560 pF,50V
C103,104	VCEAZA1AW227M	J AC	220 µF,10V,Electrolytic
C105,106	VCTYPA1CX333K	J AA	0.033 µF,16V
C107,108	VCEAZA1HW224M	J AB	0.22 µF,50V,Electrolytic
C109~112	VCKYTV1HB271K	J AA	270 pF,50V
C113,114	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C115,116	VCKYTV1HB102K	J AA	0.001 µF,50V
C117,118	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C119,120	VCKYTV1HB332K	J AA	0.0033 µF,50V
C121,122	VCKYTV1HB561K	J AA	560 pF,50V
C123,124	VCCCTV1HH181J	J AB	180 pF (CH),50V
C125,126	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C128	VCEAZA1AW227M	J AC	220 µF,10V,Electrolytic
C129	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C130	VCEAZA1CW336M	J AB	33 µF,16V,Electrolytic
C131,132	VCEAZA1HW104M	J AB	0.1 µF,50V,Electrolytic
C136	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic

NO.	PART CODE	★ PRICE RANK	DESCRIPTION
C137	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C138	RC-QZA473AFYJ	J AB	0.047 µF,50V,Mylar
C139	VCTYP1EX393K	J AA	0.039 µF,25V
C140	VCQPKA2AA822J	J AA	0.0082 µF,100V,Polypolypropylene
C141	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C142	VCCSPA1HL561J	J AA	560 pF,50V
C143	VCKYTV1HF223Z	J AA	0.022 µF,50V
C145,146	VCKYTV1HB331K	J AA	330 pF,50V
C147,148	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C149,150	VCCCTV1HH101J	J AA	100 pF (CH),50V
C151	VCKYTV1EF474Z	J AA	0.47 µF,25V
C153,154	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C155,156	VCKYTV1HB221K	J AA	220 pF,50V
C157,158	VCKYTV1HB331K	J AA	330 pF,50V
C159,160	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C161~164	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C165	VCEAZA1HW224M	J AB	0.22 µF,50V,Electrolytic
C166	VCEAZA1HW226M	J AB	22 µF,50V,Electrolytic
C167,168	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C169,170	VCEAZA1HW475M	J AB	4.7 µF,50V,Electrolytic
C171	VCEAZA1AW227M	J AC	220 µF,10V,Electrolytic
C172	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C173	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C174	VCEAZA1HW224M	J AB	0.22 µF,50V,Electrolytic
C175,176	VCKYTV1HB391K	J AA	390 pF,50V
C177	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C178	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C203~206	VCCSPA1HL471J	J AA	470 pF,50V
C207,208	VCCSBT1HL150J	J AA	15 pF,50V
C209,210	VCEAZA1VW107M	J AC	100 µF,35V,Electrolytic
C215	VCEAZA1HW107M	J AC	100 µF,50V,Electrolytic
C217~220	VCQYKA1HM104J	J AC	0.1 µF,50V,Mylar
C221,222	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C223	VCEAZA1HW107M	J AC	100 µF,50V,Electrolytic
C237,238	RC-EZ0032AWZZ	J AV	4700 µF,50V,Electrolytic
C241	VCEAZA1EW476M	J AB	47 µF,25V,Electrolytic
C242	VCKYPA1HF223Z	J AB	0.022 µF,50V
C245	VCEAZA1HW476M	J AB	47 µF,50V,Electrolytic
C250,251	VCKYPA1HF223Z	J AB	0.022 µF,50V
C261,262	VCEAZA1HW106M	J AB	10 µF,50V,Electrolytic
C271	VCEAZA1HW106M	J AB	10 µF,50V,Electrolytic
C272	VCEAZA1AW227M	J AC	220 µF,10V,Electrolytic
C297	VCEAZA1HW476M	J AB	47 µF,50V,Electrolytic
C301	VCKYTQ1HB102K	J AB	1000 pF,50V
C321	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C323	VCKYTQ1HB223K	J AB	0.022 µF,50V
C330	VCCUPA1HJ100D	J AA	10 pF (UJ),50V
C331	VCKYPA1HF473Z	J AB	0.047 µF,50V
C332	VCKYTQ1HB223K	J AB	0.022 µF,50V
C334	VCCUPA1HJ180J	J AA	18 pF (UJ),50V
C335	VCCCTV1HH180J	J AA	18 pF (CH),50V
C336	VCCCTV1HH471J	J AB	470 pF (CH),50V
C337	VCKYTQ1HB223K	J AB	0.022 µF,50V
C338	VCKYTQ1HB102K	J AB	1000 pF,50V
C340	VCKYTQ1HB102K	J AB	1000 pF,50V
C341,342	VCKYTQ1HB223K	J AB	0.022 µF,50V
C343	VCCCTV1HH330J	J AB	33 pF (CH),50V
C345~347	VCKYTQ1HB223K	J AB	0.022 µF,50V
C348	VCKYTQ1HB103K	J AB	0.01 µF,50V
C350,351	VCKYTQ1HB223K	J AB	0.022 µF,50V
C352	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C353,354	VCKYTQ1HB223K	J AB	0.022 µF,50V
C355	VCCCTQ1HH220J	J AB	22 pF (CH),50V
C356	VCKYTQ1HB102K	J AB	1000 pF,50V
C357	VCEAZA1HW225M	J AB	2.2 µF,50V,Electrolytic
C358	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C361	VCKYTQ1HB223K	J AB	0.022 µF,50V
C362	VCEAZA1HW335M	J AB	3.3 µF,50V,Electrolytic
C363	VCKYTQ1HB223K	J AB	0.022 µF,50V
C364	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C365	VCTYP1CX223K	J AA	0.022 µF,16V
C366	VCKYTQ1HB102K	J AB	1000 pF,50V
C367,368	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C370~372	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C373,374	VCTYP1CX183K	J AA	0.018 µF,16V
C375	VCEAZA1HW335M	J AB	3.3 µF,50V,Electrolytic
C380	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C381	VCCCTQ1HH120J	J AB	12 pF (CH),50V
C382	VCCCTV1HH150J	J AA	15 pF (CH),50V
C384	VCKYTQ1HB102K	J AB	1000 pF,50V
C385	VCKYTQ1HB103K	J AB	0.01 µF,50V
C386	VCCCTQ1HH331J	J AC	330 pF (CH),50V

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
C387	VCKYTQ1HB223K	J AB	0.022 µF,50V
C391	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C392	VCKYTQ1HB102K	J AB	1000 pF,50V
C393	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C394	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C395	VCKYTQ1HB223K	J AB	0.022 µF,50V
C396	VCEAZA1AW107M	J AB	100 µF,10V,Electrolytic
C397	VCKYTQ1HB223K	J AB	0.022 µF,50V
C398	VCEAZA1AW107M	J AB	100 µF,10V,Electrolytic
C399	VCKYTQ1HB223K	J AB	0.022 µF,50V
C401,402	VCCCTV1HH331J	J AA	330 pF (CH),50V
C403	VCEAZA1HW225M	J AB	2.2 µF,50V,Electrolytic
C405,406	VCCCTV1HH391J	J AA	390 pF (CH),50V
C409	VCKYTV1HF104Z	J AA	0.1 µF,50V
C410,411	VCEAZA1EW476M	J AB	47 µF,25V,Electrolytic
C412	VCKYTV1HF104Z	J AA	0.1 µF,50V
C493,494	VCEAZA1HW106M	J AB	10 µF,50V,Electrolytic
C501~510	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C511,512	VCEAZA1CW476M	J AB	47 µF,16V,Electrolytic
C515,516	VCEAZA1HW225M	J AB	2.2 µF,50V,Electrolytic
C517,518	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C519,520	VCEAZA1HW224M	J AB	0.22 µF,50V,Electrolytic
C521,522	RC-QZA823AFYJ	J AC	0.082 µF,50V,Mylar
C523,524	VCEAZA1HW224M	J AB	0.22 µF,50V,Electrolytic
C525,526	VCEAZA1HW154M	J AB	0.15 µF,50V,Electrolytic
C527,528	VCEAZA1HW224M	J AB	0.22 µF,50V,Electrolytic
C529,530	RC-QZA273AFYJ	J AB	0.027 µF,50V,Mylar
C531,532	RC-QZA153AFYJ	J AB	0.015 µF,50V,Mylar
C533,534	RC-QZA222AFYJ	J AB	0.0022 µF,50V,Mylar
C535,536	RC-QZA472AFYJ	J AA	0.0047 µF,50V,Mylar
C537,538	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C539,540	VCEAZA1CW106M	J AC	10 µF,16V,Electrolytic
C541,542	VCKYTV1HB562K	J AA	0.0056 µF,50V
C543~546	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C550	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C551,552	RC-EZ0004AWZZ	J AD	100 µF,10V,Electrolytic
C553	VCEAZA1AW227M	J AC	220 µF,10V,Electrolytic
C555,556	VCKYTV1HB102K	J AA	0.001 µF,50V
C557	VCEAZA1EW226M	J AB	22 µF,25V,Electrolytic
C558	RC-EZ0007AWZZ	J AF	10 µF,10V,Electrolytic
C571,572	VCEAZA1HW226M	J AB	22 µF,50V,Electrolytic
C573,574	VCCCTV1HH820J	J AA	82 pF (CH),50V
C575,576	VCEAZA1HW226M	J AB	22 µF,50V,Electrolytic
C577,578	VCCCTV1HH470J	J AA	47 pF (CH),50V
C591	VCEAZA1HW106M	J AB	10 µF,50V,Electrolytic
C592,593	VCKYTV1HF104Z	J AA	0.1 µF,50V
C594	VCEAZA1HW106M	J AB	10 µF,50V,Electrolytic
C625,626	VCKYTV1HB102K	J AA	0.001 µF,50V
C631,632	VCCCTV1HH101J	J AA	100 pF (CH),50V
C633	VCKYTV1EF223Z	J AA	0.022 µF,25V
C701,702	VCCCTV1HH101J	J AA	100 pF (CH),50V
C706	VCCCTV1HH101J	J AA	100 pF (CH),50V
C707	RC-EZD105AF1H	J AB	1 µF,50V,Electrolytic
C708	VCCCTV1HH101J	J AA	100 pF (CH),50V
C711,712	VCCCTV1HH391J	J AA	390 pF (CH),50V
C730	RC-EZD105AF1H	J AB	1 µF,50V,Electrolytic
C731	RC-EZD227AF1A	J AC	220 µF,10V,Electrolytic
C732	VCCCTV1HH270J	J AA	27 pF (CH),50V
C733	RC-EZD106AF1C	J AB	10 µF,16V,Electrolytic
C735	RC-EZD105AF1H	J AB	1 µF,50V,Electrolytic
C744	VCEAZA1HW107M	J AC	100 µF,50V,Electrolytic
C745,746	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C751,752	VCCCTV1HH151J	J AA	150 pF (CH),50V
C753	VCCCTV1HH391J	J AA	390 pF (CH),50V
C754	VCCCTV1HH151J	J AA	150 pF (CH),50V
C755	RC-EZD105AF1H	J AB	1 µF,50V,Electrolytic
C766~789	VCCCTV1HH221J	J AA	220 pF (CH),50V
C801~806	VCQYKA1HM104K	J AB	0.1 µF,50V,Mylar
C808	VCEAZV1HW227M	J AD	220 µF,50V,Electrolytic
C809	VCEAZV1JW227M	J AD	220 µF,63V,Electrolytic
C810	VCEAZV1HW227M	J AD	220 µF,50V,Electrolytic
C811	VCEAZV1JW227M	J AD	220 µF,63V,Electrolytic
C812,813	VCEAZA1HW476M	J AB	47 µF,50V,Electrolytic
C815,816	VCEAZA1AW107M	J AB	100 µF,10V,Electrolytic
C817,818	VCKYPA1HF223Z	J AB	0.022 µF,50V
C820	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C821	VCEAZA1EW476M	J AB	47 µF,25V,Electrolytic
C822,823	VCKYPA1HF223Z	J AB	0.022 µF,50V
C830	VCKYPA1HF223Z	J AB	0.022 µF,50V
C831	VCEAZA1EW476M	J AB	47 µF,25V,Electrolytic
C832	VCKYPA1HF223Z	J AB	0.022 µF,50V
C833	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic



NO.	PART CODE	★ PRICE RANK	DESCRIPTION
C840	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C841	VCEAZA1EW476M	J AB	47 µF,25V,Electrolytic
C842,843	VCKYPA1HF223Z	J AB	0.022 µF,50V
C850	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C851	VCEAZA1EW476M	J AB	47 µF,25V,Electrolytic
C852,853	VCKYPA1HF223Z	J AB	0.022 µF,50V
C860	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C861	VCEAZA1EW476M	J AB	47 µF,25V,Electrolytic
C867,868	VCKYPA1HF223Z	J AB	0.022 µF,50V
C880	VCEAZA1CW107M	J AC	100 µF,16V,Electrolytic
C882	VCKYPA1HF223Z	J AB	0.022 µF,50V
C884	VCEAZA1CW227M	J AC	220 µF,16V,Electrolytic
C885	VCKYPA1HF223Z	J AB	0.022 µF,50V
C888	VCEAZW1EW688M	J AL	6800 µF,25V,Electrolytic
C891	VCEAZW1EW688M	J AL	6800 µF,25V,Electrolytic
C902,903	VCCCTV1HH151J	J AA	150 pF (CH),50V
C904	VCKYTV1HB391K	J AA	390 pF,50V
C905	VCEAZA1CW477M	J AC	470 µF,16V,Electrolytic
C908,909	VCKYTV1HF104Z	J AA	0.1 µF,50V
C911	VCKYTV1HF104Z	J AA	0.1 µF,50V
C914~918	VCKYTV1HB101K	J AA	100 pF,50V
C929~936	VCKYTV1HB101K	J AA	100 pF,50V
C941	VCCCTV1HH220J	J AA	22 pF (CH),50V
C942	VCCCTV1HH180J	J AA	18 pF (CH),50V
C943,944	VCKYTV1HF104Z	J AA	0.1 µF,50V
C945	VCKYTV1HF104Z	J AB	0.1 µF,50V
C950	VCEAZA1AW227M	J AC	220 µF,10V,Electrolytic
C951	VCKYTV1HF104Z	J AA	0.1 µF,50V
C952	VCKYTV1HF104Z	J AB	0.1 µF,50V
C956,957	VCCCTV1HH151J	J AA	150 pF (CH),50V
C958	VCKYTV1HB391K	J AA	390 pF,50V
C961,962	VCKYTV1HF104Z	J AA	0.1 µF,50V
C964	VCKYTV1HF104Z	J AB	0.1 µF,50V
C967~970	VCKYTV1HB101K	J AA	0.1 µF,50V
C971	VCKYTV1HF104Z	J AA	0.1 µF,50V
C972	VCKYTV1HF104Z	J AA	0.1 µF,50V
C977~979	VCKYTV1HF104Z	J AA	0.1 µF,50V
C985	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C991	VCKYTV1HF104Z	J AA	0.1 µF,50V
C992	VCEAZA1HW105M	J AB	1 µF,50V,Electrolytic
C993	VCKYTV1HF104Z	J AA	0.1 µF,50V
C996	VCKYTV1HF104Z	J AA	0.1 µF,50V
C999	VCCCTV1HH680J	J AA	68 pF (CH),50V
C1001	VCEAZA0JW108M	J AC	1000 µF,6.3V,Electrolytic
C1002	VCKYTV1HF104Z	J AA	0.1 µF,50V
C1101	RC-KZ0003AWZZ	J AE	4.7 µF,10V
C1102	VCKYTV0JB105K	J AD	1 µF,6.3V
C1103	VCKYTV1CF105Z	J AB	1 µF,16V
C1104	VCKYTV1HB273K	J AA	0.027 µF,50V
C1105	RC-KZ0002AWZZ	J AE	10 µF,10V
C1106	VCKYTV1CB474K	J AC	0.47 µF,16V
C1107	VCKYTV1HB472K	J AA	0.0047 µF,50V
C1109	VCKYTV0JB105K	J AD	1 µF,6.3V
C1110	VCKYTV1CB474K	J AC	0.47 µF,16V
C1112~1116	VCCCCY1HH271J	J AA	270 pF (CH),50V
C1117	VCKYCY1HB332K	J AA	0.0033 µF,50V
C1118	VCKYTV1HB333K	J AA	0.033 µF,50V
C1119	VCCCCY1HH331J	J AA	330 pF (CH),50V
C1121	VCKYTV1CF105Z	J AB	1 µF,16V
C1145	VCKYCY1CB333K	J AA	0.033 µF,16V
C1202,1203	VCKYTV1CF105Z	J AB	1 µF,16V
C1204,1205	VCCCCY1HH120J	J AA	12 pF (CH),50V
C1206,1207	VCKYTV1CF105Z	J AB	1 µF,16V
C1208	VCKYCY1CB473K	J AA	0.047 µF,16V
C1209~1211	VCKYTV1CF105Z	J AB	1 µF,16V
C1251	VCKYCY1CB273K	J AA	0.027 µF,16V
C1252	VCCCTV1HH121J	J AA	120 pF (CH),50V
C1254	RC-KZ0002AWZZ	J AE	10 µF,10V
C1255	RC-KZ0003AWZZ	J AE	4.7 µF,10V
C1401,1402	VCKYCY1CB473K	J AA	0.047 µF,16V
C1403	VCKYCY1HB681K	J AA	680 pF,50V
C1405	VCKYCY1EF104Z	J AA	0.1 µF,25V
C1406	VCKYTV1CF105Z	J AB	1 µF,16V
C1407	VCKYCY1CB223K	J AA	0.022 µF,16V
C1412	VCKYCY1HB681K	J AA	680 pF,50V
C1421~1424	VCKYCY1CB223K	J AA	0.022 µF,16V
C1425	VCKYCY1CB473K	J AA	0.047 µF,16V
C1460	VCKYTV1CF105Z	J AB	1 µF,16V
C1601,1602	RC-KZ0003AWZZ	J AE	4.7 µF,10V
C1604	VCCCCY1HH560J	J AA	56 pF (CH),50V
C1605	VCEAPS107AF1A	J AD	100 µF,10V,Electrolytic
C1609	VCKYTV1CF105Z	J AC	1 µF,16V

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
C1610	RC-KZ0002AWZZ	J AE	10 µF,10V
C1631	VCKYTV1CF105Z	J AB	1 µF,16V
C1650~1653	VCCSCY1HL821J	J AA	820 pF,50V
C1654,1655	VCKYCY1EB153K	J AA	0.015 µF,25V
C1656,1657	VCKYCY1HB562K	J AA	0.0056 µF,50V
C1661	VCEAPS107AF1A	J AD	100 µF,10V,Electrolytic
C1700,1701	VCKYTV1HF103Z	J AA	0.01 µF,50V
C1702	VCKYCY1CB473K	J AA	0.047 µF,16V
C1703	VCEAPS476AF0G	J AC	47 µF,4V,Electrolytic
C1704	VCKYTV1CF105Z	J AB	1 µF,16V
C1706,1707	RC-EZ1620AFZZ	J AC	10 µF,16V,Electrolytic
C1709	VCKYCY1CB473K	J AA	0.047 µF,16V
C1710	VCEAPS476AF0G	J AC	47 µF,4V,Electrolytic
C1711	VCKYTV1HF103Z	J AA	0.01 µF,50V
C1712	VCEAPS476AF0G	J AC	47 µF,4V,Electrolytic
C1713	VCEAPS226AF0G	J AC	22 µF,4V,Electrolytic
C1714	VCEAPS476AF0G	J AC	47 µF,4V,Electrolytic
C1715	VCEAPS226AF0G	J AC	22 µF,4V,Electrolytic
C1716,1717	VCKYTV1HF103Z	J AA	0.01 µF,50V
C1720	VCKYCY1CB103K	J AA	0.01 µF,16V
C1722	VCCCCY1HH101J	J AA	100 pF (CH),50V
C1724	VCCCCY1HH101J	J AA	100 pF (CH),50V
C1743	VCEAPS476AF0G	J AC	47 µF,4V,Electrolytic
C1801	VCKYTV1CF225Z	J AB	2.2 µF,16V
C1802	VCEAPS107AF1A	J AD	100 µF,10V,Electrolytic
C1803	RC-KZ0002AWZZ	J AE	10 µF,10V
C1805	VCKYTV1CF105Z	J AB	1 µF,16V
C1806	RC-KZ0002AWZZ	J AE	10 µF,10V
C1807	VCEAPS227AF0G	J AC	220 µF,4V,Electrolytic
C1810	VCKYTV1CF105Z	J AB	1 µF,16V
C1904	VCKYTV1CB334K	J AC	0.33 µF,16V
C1913	VCCCCY1HH220J	J AA	22 pF (CH),50V
C1927	VCKYCY1CB473K	J AA	0.047 µF,16V
C1951	VCKYCY1CB473K	J AA	0.047 µF,16V
C1952	VCKYCY1CB103K	J AA	0.01 µF,16V
C1953	VCKYTV1CB474K	J AC	0.47 µF,16V
C1954	VCCCCY1HH150J	J AA	15 pF (CH),50V
C1955	VCKYCY1CB473K	J AA	0.047 µF,16V
C1956	VCEAPS476AF0J	J AC	47 µF,6.3V,Electrolytic
C1957	VCEAPS107AF0J	J AC	100 µF,6.3V,Electrolytic
C1958	VCKYCY1CB473K	J AA	0.047 µF,16V
C1964	VCKYCY1HB102K	J AA	1000 pF,50V
C1990	VCKYTV0JB105K	J AD	1 µF,6.3V
C1991	RC-KZ0002AWZZ	J AE	10 µF,10V
C1992	VCKYCY1EF104Z	J AA	0.1 µF,25V
CA13	VCKYTV1HF103Z	J AA	0.01 µF,50V
CY952	VCCCTV1HH121J	J AA	120 pF (CH),50V
CY998	VCCCTV1HH121J	J AA	120 pF (CH),50V
J1720	VCCCTV1HH331J	J AA	330 pF (CH),50V
JC121	VCKYCY1CB473K	J AA	0.047 µF,16V
JPY945	VCKYTV1CF473Z	J	0.047 µF,16V

## RESISTORS

	VRD-ST2CD0R0J	J AA	0 ohm,1/6W,Jumper
	VRS-CY1JB000J	J AA	0 ohm,Jumper,0.8×1.55mm,Green
	VRS-TQ2BB000J	J AA	0 ohm,Jumper,1.55×3.1mm,Green
	VRS-TV2AB000J	J AA	0 ohm,Jumper,1.25×2mm,Green
	VRS-TV2AB000J	J AA	0 ohm,Jumper,1.25×2mm,Green
△ FR201,202	VRG-ST2EC101J	J AB	100 ohm,1/4W,Fusible
△ FR801	VRG-ST2EG2R2J	J AB	2.2 ohms,1/4W,Fusible
J1009	VRD-ST2CD103J	J AA	10 kohm,1/6W
J1405	VRS-CY1JB103J	J AA	10 kohm,1/16W
L2	VRD-ST2CD102J	J AA	1 kohm,1/6W
R2	VRS-TV2AB104J	J AA	100 kohm,1/10W
R3	VRS-TV2AB153J	J AA	15 kohms,1/10W
R4	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R5	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R6	VRS-TV2AB101J	J AA	100 ohm,1/10W
R7	VRS-TV2AB102J	J AA	1 kohm,1/10W
R8	VRS-TV2AB123J	J AA	12 kohms,1/10W
R9	VRS-TV2AB273J	J AA	27 kohms,1/10W
R10	VRS-TQ2BB823J	J AA	82 kohms,1/8W
R11	VRS-TV2AB332J	J AA	3.3 kohms,1/10W
R12	VRS-TV2AB153J	J AA	15 kohms,1/10W
R13	VRS-TV2AB333J	J AA	33 kohms,1/10W
R14	VRS-TV2AB103J	J AA	10 kohm,1/10W
R15	VRS-TV2AB473J	J AA	47 kohms,1/10W
R16	VRS-TV2AB152J	J AA	1.5 kohms,1/10W
R17	VRS-TV2AB823J	J AA	82 kohms,1/10W



NO.	PART CODE	★	PRICE RANK	DESCRIPTION
R18	VRD-ST2CD335J	J	AA	3.3 Mohms,1/6W
R19	VRS-TV2AB393J	J	AA	39 kohms,1/10W
R20	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R21	VRS-TV2AB563J	J	AA	56 kohms,1/10W
R22	VRS-TV2AB682J	J	AA	6.8 kohms,1/10W
R23	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W
R24	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R25	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W
R26,27	VRD-ST2CD224J	J	AA	220 kohms,1/6W
R28,29	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R30	VRD-ST2CD273J	J	AA	27 kohms,1/6W
R31	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R32	VRS-TV2AB563J	J	AA	56 kohms,1/10W
R33	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R34	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R35	VRS-TV2AB471J	J	AA	470 ohms,1/10W
R36,37	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R38	VRS-TV2AB333J	J	AA	33 kohms,1/10W
R39,40	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R41	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
R42	VRS-TV2AB561J	J	AA	560 ohms,1/10W
R43	VRD-ST2EE220J	J	AA	22 ohms,1/4W
R45	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R46,47	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R48	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R49	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R56	VRS-TV2AB122J	J	AA	1.2 kohms,1/10W
R57	VRS-TV2AB273J	J	AA	27 kohms,1/10W
R58	VRS-TV2AB681J	J	AA	680 ohms,1/10W
R60	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R61	VRS-TV2AB221J	J	AA	220 ohms,1/10W
R62-65	VRD-ST2CD823J	J	AA	82 kohms,1/6W
R66,67	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R70	VRS-TV2AB331J	J	AA	330 ohms,1/10W
R77,78	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R81	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R84	VRD-ST2EE220J	J	AA	22 ohms,1/4W
R89	VRS-TV2AB272J	J	AA	2.7 kohms,1/10W
R90	VRS-TV2AB822J	J	AA	8.2 kohms,1/10W
R91	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R93,94	VRD-RT2HD1R0J	J	AA	1 ohm,1/2W
R96	VRS-TV2AB332J	J	AA	3.3 kohms,1/10W
R97	VRS-TV2AB272J	J	AA	2.7 kohms,1/10W
R98	VRS-TV2AB822J	J	AA	8.2 kohms,1/10W
R101	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R102	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R103,104	VRS-TV2AB390J	J	AA	39 ohms,1/10W
R105,106	VRS-TV2AB682J	J	AA	6.8 kohms,1/10W
R107,108	VRS-TV2AB392J	J	AA	3.9 kohms,1/10W
R109,110	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R111,112	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R113,114	VRS-TV2AB225J	J	AA	2.2 Mohms,1/10W
R115,116	VRS-TV2AB105J	J	AA	1 Mohm,1/10W
R117,118	VRS-TV2AB182J	J	AA	1.8 kohms,1/10W
R119,120	VRS-TV2AB124J	J	AA	120 kohms,1/10W
R121	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R122	VRS-TV2AB153J	J	AA	15 kohms,1/10W
R123	VRD-ST2EE221J	J	AA	220 ohms,1/4W
R124	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R125	VRS-TV2AB152J	J	AA	1.5 kohms,1/10W
R126	VRS-TV2AB474J	J	AA	470 kohms,1/10W
R127	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R128	VRD-ST2CD105J	J	AA	1 Mohm,1/6W
R129	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R130	VRS-TV2AB822J	J	AA	8.2 kohms,1/10W
R131	VRD-ST2EE101J	J	AA	100 ohm,1/4W
R132	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R133	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R134	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R135,136	VRS-TV2AB100J	J	AA	10 ohm,1/10W
R137	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R138	VRD-ST2CD562J	J	AA	5.6 kohms,1/6W
R141	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R143	VRS-TV2AB563J	J	AA	56 kohms,1/10W
R144	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R145,146	VRD-ST2EE151J	J	AA	150 ohms,1/6W
R147,148	VRD-RT2HD330J	J	AA	33 ohms,1/2W
R149	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R150	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R151	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R152	VRS-TV2AB561J	J	AA	560 ohms,1/10W
R153	VRS-TV2AB563J	J	AA	56 kohms,1/10W

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R154	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R155	VRD-ST2CD4R7J	J	AA	4.7 ohms,1/6W
R156	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R157	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R158-160	VRS-TV2AB222J	J	AA	2.2 kohms,1/10W
R161	VRD-ST2CD273J	J	AA	27 kohms,1/6W
R162	VRS-TV2AB273J	J	AA	27 kohms,1/10W
R163	VRD-ST2EE271J	J	AA	270 ohms,1/4W
R164	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R165,166	VRS-TV2AB223J	J	AA	22 kohms,1/10W
R167,168	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R169,170	VRS-TV2AB123J	J	AA	12 kohms,1/10W
R171	VRS-TV2AB682J	J	AA	6.8 kohms,1/10W
R172	VRD-ST2CD682J	J	AA	6.8 kohms,1/6W
R173	VRS-TV2AB183J	J	AA	18 kohms,1/10W
R175	VRS-TV2AB103J	J	AA	10 kohm,1/10W
R177,178	VRS-TV2AB562J	J	AA	5.6 kohms,1/10W
R179,180	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R181	VRD-ST2CD334J	J	AA	330 kohms,1/6W
R182,183	VRD-ST2CD154J	J	AA	150 kohms,1/6W
R184	VRS-TV2AB473J	J	AA	47 kohms,1/10W
R185	VRS-TV2AB472J	J	AA	4.7 kohms,1/10W
R186	VRS-TV2AB102J	J	AA	1 kohm,1/10W
R187	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R191	VRD-ST2CD471J	J	AA	470 ohms,1/6W
R192,193	VRS-TV2AB392J	J	AA	3.9 kohms,1/10W
R194	VRS-TV2AB104J	J	AA	100 kohm,1/10W
R195	VRS-TV2AB821J	J	AA	820 ohms,1/10W
R196	VRS-TV2AB391J	J	AA	390 ohms,1/10W
R197	VRS-TV2AB272J	J	AA	2.7 kohms,1/10W
R199	VRD-ST2CD561J	J	AA	560 ohms,1/6W
R201,202	VRD-ST2CD104J	J	AA	100 kohm,1/6W
R203,204	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R205,206	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R209,210	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R211,212	VRD-ST2CD821J	J	AA	820 ohms,1/6W
R225	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R227,228	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R229,230	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R239,240	VRD-ST2EE331J	J	AA	330 ohms,1/4W
R243	VRS-VV3LA821J	J	AB	820 ohms,3W
R244	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R245	VRD-ST2CD683J	J	AA	68 kohms,1/6W
R246	VRD-ST2CD153J	J	AA	15 kohms,1/6W
R247	VRD-ST2CD222J	J	AA	2.2 kohms,1/6W
R251,252	VRS-VV3AAR20J	J	AB	0.2 ohms,1W
R253,254	VRD-ST2CD103J	J	AA	10 kohm,1/6W
R255,256	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R259,260	VRS-VV3AAR20J	J	AB	0.2 ohms,1W
R261	VRD-ST2CD822J	J	AA	8.2 kohms,1/6W
R263	VRD-ST2CD123J	J	AA	12 kohms,1/6W
R265,266	VRD-ST2EE4R7J	J	AA	4.7 ohms,1/4W
R270	VRD-ST2EE271J	J	AA	270 ohms,1/4W
R271,272	VRD-ST2CD223J	J	AA	22 kohms,1/6W
R273	VRD-ST2CD102J	J	AA	1 kohm,1/6W
R274	VRD-ST2CD474J	J	AA	470 kohms,1/6W
R275	VRD-ST2CD392J	J	AA	3.9 kohms,1/6W
R276	VRD-ST2CD470J	J	AA	47 ohms,1/6W
R277	VRD-ST2CD473J	J	AA	47 kohms,1/6W
R278	VRD-ST2CD101J	J	AA	100 ohm,1/6W
R298	VRD-ST2CD563J	J	AA	56 kohms,1/6W
R319	VRS-TQ2BB104J	J	AA	100 kohm,1/8W
R323	VRS-TQ2BB683J	J	AA	68 kohms,1/8W
R324	VRS-TQ2BB104J	J	AA	100 kohm,1/8W
R336	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R344	VRS-TQ2BB471J	J	AA	470 ohms,1/8W
R345	VRS-TQ2BB472J	J	AA	4.7 kohms,1/8W
R346	VRS-TQ2BB331J	J	AA	330 ohms,1/8W
R347	VRS-TQ2BB682J	J	AA	6.8 kohms,1/8W
R348	VRS-TQ2BB681J	J	AA	680 ohms,1/8W
R349	VRD-ST2CD330J	J	AA	33 ohms,1/6W
R350	VRD-ST2CD272J	J	AA	2.7 kohms,1/6W
R351	VRS-TQ2BB562J	J	AA	5.6 kohms,1/8W
R352	VRS-TQ2BB102J	J	AA	1 kohm,1/8W
R353	VRS-TQ2BB271J	J	AA	270 ohms,1/8W
R354	VRD-ST2CD472J	J	AA	4.7 kohms,1/6W
R355	VRS-TQ2BB332J	J	AA	3.3 kohms,1/8W
R356	VRS-TQ2BB102J	J	AA	1 kohm,1/8W
R357	VRD-ST2CD474J	J	AA	470 kohms,1/6W
R358	VRS-TQ2BB822J	J	AA	8.2 kohms,1/8W
R359	VRS-TQ2BB182J	J	AA	1.8 kohms,1/8W
R360	VRS-TQ2BB472J	J	AA	4.7 kohms,1/8W

NO.	PART CODE	★ PRICE RANK	DESCRIPTION
R361,362	VRS-TQ2BB332J	J AA	3.3 kohms,1/8W
R363,364	VRS-TQ2BB122J	J AA	1.2 kohms,1/8W
R365,366	VRS-TQ2BB103J	J AA	10 kohm,1/8W
R367	VRS-TQ2BB102J	J AA	1 kohm,1/8W
R368	VRD-ST2CD333J	J AA	33 kohms,1/6W
R369	VRS-TQ2BB122J	J AA	1.2 kohms,1/8W
R371~374	VRS-TQ2BB102J	J AA	1 kohm,1/8W
R376	VRS-TQ2BB102J	J AA	1 kohm,1/8W
R377	VRD-ST2CD473J	J AA	47 kohms,1/6W
R378	VRS-TQ2BB823J	J AA	82 kohms,1/8W
R379	VRS-TQ2BB222J	J AA	2.2 kohms,1/8W
R380	VRS-TQ2BB152J	J AA	1.5 kohms,1/8W
R381	VRS-TQ2BB103J	J AA	10 kohm,1/8W
R382	VRD-ST2EE151J	J AA	150 ohms,1/4W
R383~385	VRS-TQ2BB562J	J AA	5.6 kohms,1/8W
R387	VRS-TQ2BB223J	J AA	22 kohms,1/8W
R391,392	VRD-ST2EE391J	J AA	390 ohms,1/4W
R393	VRD-ST2CD102J	J AA	1 kohm,1/6W
R395	VRD-ST2CD473J	J AA	47 kohms,1/6W
R399	VRS-TQ2BB330J	J AA	33 ohms,1/8W
R401,402	VRS-TV2AB102J	J AA	1 kohm,1/10W
R403,404	VRS-TV2AB562J	J AA	5.6 kohms,1/10W
R405,406	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R407,408	VRS-TV2AB104J	J AA	100 kohm,1/10W
R409	VRS-TV2AB473J	J AA	47 kohms,1/10W
R410,411	VRS-TV2AB333J	J AA	33 kohms,1/10W
R412,413	VRS-TV2AB223J	J AA	22 kohms,1/10W
R417,418	VRS-TV2AB104J	J AA	100 kohm,1/10W
R420,421	VRS-TV2AB473J	J AA	47 kohms,1/10W
R424	VRS-TV2AB102J	J AA	1 kohm,1/10W
R430,431	VRD-RT2HD331J	J AA	330 ohms,1/2W
R432,433	VRD-ST2CD222J	J AA	2.2 kohms,1/6W
R434,435	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R436,437	VRS-TV2AB183J	J AA	18 kohms,1/10W
R438,439	VRS-TV2AB332J	J AA	3.3 kohms,1/10W
R462,463	VRD-ST2CD392J	J AA	3.9 kohms,1/6W
R464,465	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R498,499	VRD-RT2HD221J	J AA	220 ohms,1/2W
R501,502	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R503,504	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R505,506	VRS-TV2AB473J	J AA	47 kohms,1/10W
R509,510	VRS-TV2AB473J	J AA	47 kohms,1/10W
R521	VRD-ST2CD562J	J AA	5.6 kohms,1/6W
R522	VRS-TV2AB562J	J AA	5.6 kohms,1/10W
R526	VRS-TV2AB473J	J AA	47 kohms,1/10W
R528~530	VRD-ST2CD102J	J AA	1 kohm,1/6W
R541,542	VRS-TV2AB562J	J AA	5.6 kohms,1/10W
R565,566	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R567,568	VRS-TV2AB102J	J AA	1 kohm,1/10W
R569,570	VRS-TV2AB103J	J AA	10 kohm,1/10W
R597,598	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R601	VRS-TV2AB681J	J AA	680 ohms,1/10W
R602	VRS-TV2AB102J	J AA	1 kohm,1/10W
R605	VRS-TV2AB102J	J AA	1 kohm,1/10W
R625,626	VRD-RT2HD331J	J AA	330 ohms,1/2W
R630	VRS-TV2AB102J	J AA	1 kohm,1/10W
R631,632	VRS-TV2AB332J	J AA	3.3 kohms,1/10W
R633,634	VRS-TV2AB223J	J AA	22 kohms,1/10W
R635,636	VRS-TV2AB822J	J AA	8.2 kohms,1/10W
R637	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R641,642	VRS-TV2AB102J	J AA	1 kohm,1/10W
R691	VRS-TV2AB683J	J AA	68 kohms,1/10W
R692~697	VRS-TV2AB103J	J AA	10 kohm,1/10W
R701	VRS-TV2AB122J	J AA	1.2 kohms,1/10W
R702	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R703	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R704	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R705	VRS-TV2AB472J	J AA	4.7 kohms,1/10W
R706	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R707~709	VRS-TV2AB102J	J AA	1 kohm,1/10W
R710	VRS-TV2AB681J	J AA	680 ohms,1/10W
R711	VRS-TV2AB122J	J AA	1.2 kohms,1/10W
R712	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R713	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R714	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R715	VRS-TV2AB472J	J AA	4.7 kohms,1/10W
R716	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R717	VRS-TV2AB153J	J AA	15 kohms,1/10W
R718	VRS-TV2AB102J	J AA	1 kohm,1/10W
R719	VRS-TV2AB101J	J AA	100 ohm,1/10W
R720	VRS-TV2AB681J	J AA	680 ohms,1/10W
R721	VRS-TV2AB122J	J AA	1.2 kohms,1/10W

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
R722	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R723	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R724	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R725~729	VRS-TV2AB821J	J AA	820 ohms,1/10W
R730	VRS-TV2AB681J	J AA	680 ohms,1/10W
R731	VRS-TV2AB122J	J AA	1.2 kohms,1/10W
R732	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R733	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R734	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R735	VRS-TV2AB472J	J AA	4.7 kohms,1/10W
R736	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R737	VRS-TV2AB122J	J AA	1.2 kohms,1/10W
R738	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R739	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R740	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R741	VRS-TV2AB472J	J AA	4.7 kohms,1/10W
R742	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R743	VRS-TV2AB153J	J AA	15 kohms,1/10W
R744	VRS-TV2AB122J	J AA	1.2 kohms,1/10W
R745	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R746	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
R747	VRS-TV2AB272J	J AA	2.7 kohms,1/10W
R748	VRS-TV2AB472J	J AA	4.7 kohms,1/10W
R749	VRS-TV2AB682J	J AA	6.8 kohms,1/10W
R750	VRS-TV2AB821J	J AA	820 ohms,1/10W
R751~765	VRS-TV2AB104J	J AA	100 kohm,1/10W
R766~789	VRS-TV2AB330J	J AA	33 ohms,1/10W
R790~798	VRS-TV2AB104J	J AA	100 kohm,1/10W
R799	VRD-ST2CD222J	J AA	2.2 kohms,1/6W
R802	VRD-ST2CD102J	J AA	1 kohm,1/6W
R803	VRD-ST2CD103J	J AA	10 kohm,1/6W
R805	VRD-ST2CD472J	J AA	4.7 kohms,1/6W
R811	VRD-ST2EE101J	J AA	100 ohm,1/4W
R812	RR-HZ0001AWZZ	J AE	4.7 Mohms,1/2W
R813	VRD-ST2CD102J	J AA	1 kohm,1/6W
R820	VRD-ST2CD222J	J AA	2.2 kohms,1/6W
R821	VRD-ST2EE221J	J AA	220 ohms,1/4W
R823	VRD-ST2CD473J	J AA	47 kohms,1/6W
R830	VRD-ST2CD102J	J AA	1 kohm,1/6W
R831	VRD-ST2CD221J	J AA	220 ohms,1/6W
R840	VRD-ST2CD102J	J AA	1 kohm,1/6W
R841	VRD-ST2EE101J	J AA	100 ohm,1/4W
R852	VRD-ST2CD221J	J AA	220 ohms,1/6W
R853	VRD-ST2EE102J	J AA	1 kohm,1/4W
R861	VRD-ST2EE221J	J AA	220 ohms,1/4W
R862	VRD-ST2EE681J	J AA	680 ohms,1/4W
R863	VRD-ST2CD473J	J AA	47 kohms,1/6W
R879	VRD-ST2CD471J	J AA	470 ohms,1/6W
R880	VRD-ST2EE152J	J AA	1.5 kohms,1/4W
R881	VRD-ST2CD471J	J AA	470 ohms,1/6W
R900	VRS-TQ2BB563J	J AA	56 kohms,1/8W
R901~903	VRS-TV2AB102J	J AA	1 kohm,1/10W
R905,906	VRS-TV2AB102J	J AA	1 kohm,1/10W
R907	VRS-TQ2BB102J	J AA	1 kohm,1/8W
R908	VRS-TV2AB102J	J AA	1 kohm,1/10W
R910~913	VRS-TV2AB102J	J AA	1 kohm,1/10W
R914~921	VRD-ST2CD102J	J AA	1 kohm,1/6W
R923~927	VRS-TV2AB102J	J AA	1 kohm,1/10W
R928	VRD-ST2CD102J	J AA	1 kohm,1/6W
R929~936	VRS-TV2AB102J	J AA	1 kohm,1/10W
R938	VRS-TQ2BB000J	J AA	0 ohm,Jumper,1.55x3.1mm, Green
R941	VRS-TV2AB334J	J AA	330 kohms,1/10W
R943~949	VRS-TV2AB102J	J AA	1 kohm,1/10W
R950	VRD-ST2CD102J	J AA	1 kohm,1/6W
R953,954	VRS-TV2AB102J	J AA	1 kohm,1/10W
R955,956	VRD-ST2CD102J	J AA	1 kohm,1/6W
R957~960	VRS-TV2AB102J	J AA	1 kohm,1/10W
R962	VRS-TQ2BB102J	J AA	1 kohm,1/8W
R963	VRS-TV2AB102J	J AA	1 kohm,1/10W
R965,966	VRS-TV2AB102J	J AA	1 kohm,1/10W
R967	VRD-ST2CD102J	J AA	1 kohm,1/6W
R968~970	VRD-ST2CD102J	J AA	1 kohm,1/6W
R971~982	VRS-TV2AB102J	J AA	1 kohm,1/10W
R983	VRD-ST2CD102J	J AA	1 kohm,1/6W
R984~987	VRS-TV2AB102J	J AA	1 kohm,1/10W
R988	VRS-TQ2BB102J	J AA	1 kohm,1/8W
R991~999	VRD-ST2CD102J	J AA	1 kohm,1/6W
R1022	VRS-TV2AB473J	J AA	47 kohms,1/10W
R1024~1028	VRS-TV2AB273J	J AA	27 kohms,1/10W
R1029~1036	VRS-TV2AB562J	J AA	5.6 kohms,1/10W
R1043	VRS-TV2AB473J	J AA	47 kohms,1/10W

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NO.	PART CODE	★ PRICE RANK	DESCRIPTION
R1044,1045	VRS-TV2AB223J	J AA	22 kohms,1/10W
R1046	VRS-TV2AB123J	J AA	12 kohms,1/10W
R1047	VRS-TV2AB474J	J AA	470 kohms,1/10W
R1055~1059	VRS-TV2AB103J	J AA	10 kohm,1/10W
R1062,1063	VRS-TV2AB103J	J AA	10 kohm,1/10W
R1078	VRS-TV2AB183J	J AA	18 kohms,1/10W
R1080	VRS-TV2AB223J	J AA	22 kohms,1/10W
R1085	VRS-TV2AB223J	J AA	22 kohms,1/10W
R1092~1099	VRS-TV2AB223J	J AA	22 kohms,1/10W
R1100	VRS-TQ2BB270J	J AA	27 ohms,1/8W
R1102	VRS-CY1JB561J	J AA	560 ohms,1/16W
R1105	VRS-CY1JB394J	J AA	390 kohms,1/16W
R1106	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1107	VRS-CY1JB1R0J	J AA	1 ohm,1/16W
R1150~1154	VRS-CY1JB223J	J AA	22 kohms,1/16W
R1155	VRS-CY1JB563J	J AA	56 kohms,1/16W
R1166	VRS-CY1JB122J	J AA	1.2 kohms,1/16W
R1201	VRS-CY1JB151J	J AA	150 ohms,1/16W
R1202	VRS-CY1JB105J	J AA	1 Mohm,1/16W
R1210	VRS-CY1JB101J	J AA	100 ohm,1/16W
R1211	VRS-CY1JB221J	J AA	220 ohms,1/16W
R1221	VRS-CY1JB221J	J AA	220 ohms,1/16W
R1223	VRS-TV2AB681J	J AA	680 ohms,1/10W
R1251	VRS-CY1JB100J	J AA	10 ohm,1/16W
R1254	VRS-TV2AB221J	J AA	220 ohms,1/10W
R1261~1263	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1266	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1281	VRS-CY1JB470J	J AA	47 ohms,1/16W
R1401	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1404	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1406,1407	VRS-CY1JB332J	J AA	3.3 kohms,1/16W
R1408	VRS-CY1JB104J	J AA	100 kohm,1/16W
R1409	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1412	VRS-CY1JB104J	J AA	100 kohm,1/16W
R1413	VRS-CY1JB332J	J AA	3.3 kohms,1/16W
R1414	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1415	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1416	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1418	VRS-CY1JB473J	J AA	47 kohms,1/16W
R1420	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1422~1424	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1425	VRS-CY1JB272J	J AA	2.7 kohms,1/16W
R1426	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1427	VRS-CY1JB472J	J AA	4.7 kohms,1/16W
R1428	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1429,1430	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1452	VRS-CY1JB332J	J AA	3.3 kohms,1/16W
R1454	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1456	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1458	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1459	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1460	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1461	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1462	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1463	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1464	VRS-CY1JB221J	J AA	220 ohms,1/16W
R1466	VRS-CY1JB221J	J AA	220 ohms,1/16W
R1471	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1472	VRS-CY1JB473J	J AA	47 kohms,1/16W
R1473	VRS-CY1JB104J	J AA	100 kohm,1/16W
R1474~1476	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1478	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1609	VRS-CY1JB152J	J AA	1.5 kohms,1/16W
R1610	VRS-CY1JB303D	J AA	30 kohms,1/16W
R1611	VRS-CY1JB123D	J AA	12 kohms,1/16W
R1612	VRS-CY1JB563J	J AA	56 kohms,1/16W
R1613	VRS-CY1JB273J	J AA	27 kohms,1/16W
R1614	VRS-CY1JB183D	J AA	18 kohms,1/16W
R1617	VRS-CY1JB473J	J AA	47 kohms,1/16W
R1650	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1651	VRS-CY1JB104J	J AA	100 kohm,1/16W
R1652	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1653	VRS-CY1JB104J	J AA	100 kohm,1/16W
R1654	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1655	VRS-CY1JB124J	J AA	120 kohms,1/16W
R1656	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1657	VRS-CY1JB124J	J AA	120 kohms,1/16W
R1658	VRS-CY1JB153J	J AA	15 kohms,1/16W
R1659	VRS-CY1JB823J	J AA	82 kohms,1/16W
R1660	VRS-CY1JB153J	J AA	15 kohms,1/16W
R1661	VRS-CY1JB823J	J AA	82 kohms,1/16W
R1662	VRS-CY1JB103J	J AA	10 kohm,1/16W

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
R1663	VRS-CY1JB623J	J AA	62 kohms,1/16W
R1664	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1665	VRS-CY1JB623J	J AA	62 kohms,1/16W
R1666,1667	VRS-CY1JB223J	J AA	22 kohms,1/16W
R1668,1669	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1701	VRS-CY1JB105J	J AA	1 Mohm,1/16W
R1702	VRS-CY1JB684J	J AA	680 kohms,1/16W
R1707,1708	VRS-CY1JB432J	J AA	4.3 kohms,1/16W
R1710	VRS-CY1JB303J	J AA	30 kohms,1/16W
R1711	VRS-CY1JB393J	J AA	39 kohms,1/16W
R1712	VRS-CY1JB104J	J AA	100 kohm,1/16W
R1713,1714	VRS-CY1JB393J	J AA	39 kohms,1/16W
R1715	VRS-CY1JB102D	J AA	1 kohm,1/16W
R1716	VRS-CY1JB332D	J AA	3.3 kohms,1/16W
R1717	VRS-CY1JB821J	J AA	820 ohms,1/16W
R1731	VRS-CY1JB470J	J AA	47 ohms,1/16W
R1733	VRS-CY1JB470J	J AA	47 ohms,1/16W
R1734,1735	VRS-CY1JB473J	J AA	47 kohms,1/16W
R1801	VRS-CY1JB182J	J AA	1.8 kohms,1/16W
R1802	VRS-CY1JB271J	J AA	270 ohms,1/16W
R1804	VRS-CY1JB224D	J AA	220 kohms,1/16W
R1805	VRS-CY1JB104D	J AA	100 kohm,1/16W
R1806,1807	VRS-TV2AB120J	J AA	12 ohms,1/10W
R1808	VRS-CY1JB273J	J AA	27 kohms,1/16W
R1809	VRS-CY1JB391J	J AA	390 ohms,1/16W
R1810	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1811	VRS-CY1JB273J	J AA	27 kohms,1/16W
R1820,1821	VRS-TV2AB1R0J	J AA	1 ohm,1/10W
R1827	VRS-CY1JB271J	J AA	270 ohms,1/16W
R1901	VRS-TV2AB471J	J AA	470 ohms,1/10W
R1902	VRS-TV2AB182J	J AA	1.8 kohms,1/10W
R1903,1904	VRS-TV2AB821J	J AA	820 ohms,1/10W
R1927	VRS-TV2AB220J	J AA	22 ohms,1/10W
R1939	VRS-CY1JB102J	J AA	1 kohm,1/16W
R1961	VRS-CY1JB101J	J AA	100 ohm,1/16W
R1962	VRS-CY1JB224J	J AA	220 kohms,1/16W
R1963	VRS-CY1JB152J	J AA	1.5 kohms,1/16W
R1964	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1965	VRS-CY1JB103J	J AA	10 kohm,1/16W
R1967	VRS-CY1JB470J	J AA	47 ohms,1/16W
R1968	VRS-CY1JB221J	J AA	220 ohms,1/16W
R1969	VRS-TQ2BB560J	J AA	56 ohms,1/8W
R1973	VRS-CY1JB682J	J AA	6.8 kohms,1/16W
R1974	VRS-CY1JB221J	J AA	220 ohms,1/16W
R1994,1995	VRS-CY1JB222J	J AA	2.2 kohms,1/16W
RA102~104	VRS-TV2AB102J	J AA	1 kohm,1/10W
RA115	VRS-TV2AB102J	J AA	1 kohm,1/10W
RA122	VRS-TV2AB222F	J AB	2.2 kohms,1/10W
RA123	VRS-TV2AB272F	J AA	2.7 kohms,1/10W
RA124	VRS-TV2AB332F	J AB	3.3 kohms,1/10W
RA125	VRS-TV2AB392F	J AB	3.9 kohms,1/10W
RA126	VRS-TV2AB472F	J AA	4.7 kohms,1/10W
RA127	VRS-TV2AB682F	J AA	6.8 kohms,1/10W
RA128	VRS-TV2AB103F	J AB	10 kohms,1/10W
RA129	VRS-TV2AB153F	J AA	15 kohms,1/10W
RA130	VRS-TV2AB223F	J AA	22 kohms,1/10W
RA131	VRS-TV2AB393F	J AA	39 kohms,1/10W
RA132	VRS-TV2AB104F	J AA	100 kohm,1/10W
RA152~155	VRD-ST2CD102J	J AA	1 kohm,1/6W
RA156	VRD-ST2CD101J	J AA	100 ohm,1/6W
RA157	VRD-ST2CD221J	J AA	220 ohms,1/6W
RA158	VRD-ST2CD101J	J AA	100 ohm,1/6W
RA159	VRD-ST2CD102J	J AA	1 kohm,1/6W
RA160	VRS-TV2AB000J	J AA	0 ohm,Jumper,1.25x2mm,Green
RA161	VRS-TV2AB102J	J AA	1 kohm,1/10W
RA163	VRD-ST2CD102J	J AA	1 kohm,1/6W
RA176	VRS-TV2AB332J	J AA	3.3 kohms,1/10W
RA177	VRS-TV2AB222J	J AA	2.2 kohms,1/10W
RA178	VRS-TV2AB332J	J AA	3.3 kohms,1/10W
RA179	VRS-TV2AB223J	J AA	22 kohms,1/10W
RA181	VRS-TV2AB103J	J AA	10 kohm,1/10W
RA183	VRS-TV2AB473J	J AA	47 kohms,1/10W
RA231,232	VRD-ST2CD392J	J AA	3.9 kohms,1/6W
RA233,234	VRS-TV2AB104J	J AA	100 kohm,1/10W
RA241,242	VRS-TV2AB103J	J AA	10 kohm,1/10W
RA243	VRS-TV2AB474J	J AA	470 kohms,1/10W
RA244	VRS-TQ2BB103J	J AA	10 kohm,1/8W
RA245	VRD-ST2CD103J	J AA	10 kohm,1/6W
RA246	VRD-ST2CD474J	J AA	470 kohms,1/6W
RA247	VRS-TV2AB103J	J AA	10 kohm,1/10W
RA248	VRD-ST2CD103J	J AA	10 kohm,1/6W
RA249	VRD-ST2CD474J	J AA	470 kohms,1/6W



NO.	PART CODE	★ PRICE RANK	DESCRIPTION
RA251,252	VRS-TV2AB472J	J AA	4.7 kohms,1/10W
RA253	VRS-TV2AB333J	J AA	33 kohms,1/10W
RA254	VRD-ST2CD333J	J AA	33 kohms,1/6W
RA263	VRS-TV2AB104J	J AA	100 kohm,1/10W
RA272	VRS-TV2AB104J	J AA	100 kohm,1/10W
RC120	VRS-CY1JB221J	J AA	220 ohms,1/16W

## OTHER CIRCUITRY PARTS

BIM1	QCNCWN1263AWZZ	J AE	Connector Ass'y,4Pin
BIM2/CNS2	QCNCWN1020AWZZ	J AF	Connector Ass'y,5-5Pin
BIM3	QCNCWN0987AWZZ	J AH	Connector Ass'y,6Pin
CFW701	QCNCWN1204AWZZ	J AD	Flat Wire,8Pin
CFW702	QCNCWN1205AWZZ	J AC	Flat Wire,4Pin
CFW705	QCNCWN1206AWZZ	J AD	Flat Wire,9Pin
CN1101	QCNCWY028AFZZ	J AE	Plug,23Pin
CN1252	QCNCM891BAFZZ	J AC	Plug,2Pin
CN1601	QCNCWXC05AFZZ	J AC	Plug,5Pin
CN1602	QCNCM890BAF02	J AD	Plug,2Pin
CN1603	QCNCM890BAFZZ	J AC	Plug,2Pin
CN1604	QCNCM890BAF06	J AD	Plug,2Pin
CN1901	QCNCW037EAWZZ	J AH	Socket,5Pin
CN1902	QCNCWZC24AWZZ	J AH	Socket,24Pin
CN1904	QCNCM891DAFZZ	J AD	Plug,4Pin
CNP1	QCNCM705GAFZZ	J AB	Plug,7Pin
CNP2	QCNCM705HAFZZ	J AB	Plug,8Pin
CNP3	92LCONE6P53253	J AC	Plug,6Pin
CNP3A	92LCONE6P53254	J AC	Plug,6Pin
CNP11	92LCONE4P53014	J AC	Plug,4Pin
CNP101	92LCONE7P53014	J AC	Plug,7Pin
CNP102	QCNCM705LAFZZ	J AC	Plug,11Pin
CNP103	QCNCM705BAFZZ	J AA	Plug,2Pin
CNP151	QCNCM786FAFZZ	J AD	Plug,6Pin
CNP201	92LCONE6P53253	J AC	Plug,6Pin
CNP261	92LCONE2P53253	J AB	Plug,2Pin
CNP303	QCNCW010NAWZZ	J AC	Socket,13Pin
CNP401	QCNCM705HAFZZ	J AB	Plug,8Pin
CNP550	QCNCM705CAFZZ	J AA	Plug,3Pin
CNP702	92LCONE4P52147	J AC	Socket,4Pin,Wire Trap
CNP703	92LCONE2P53253	J AB	Plug,2Pin
CNP801	92LCONE3P5267X	J AD	Plug,3Pin
CNP810	QCNCW010QAWZZ	J AE	Socket,15Pin
CNP820	QCNCW010PAWZZ	J AE	Socket,14Pin
CNP850	92LCONE7P5267X	J AC	Plug,7Pin
CNP910	QCNCM010QAWZZ	J AD	Plug,15Pin
CNP920	QCNCM010PAWZZ	J AD	Plug,14Pin
CNP925	QCNCM010NAWZZ	J AC	Plug,13Pin
CNP930	92LCONPB9BPHK	J	Socket,9Pin
CNP940	92LCONE8P52147	J AD	Socket,8Pin
CNP950	QCNCWY224AWZZ	J AE	Socket,24Pin
CNP960	QCNCM705BAFZZ	J AA	Plug,2Pin
CNP980	92LCONE6P53253	J AC	Plug,6Pin
CNP990	QCNCM931EAFZZ	J AC	Plug,5Pin
CNS1A/B	QCNCWN0858AWZZ	J AG	Connector Ass'y,8-8Pin
CNS2A/B	QCNCWN0859AWZZ	J AF	Connector Ass'y,7-7Pin
CNS3A/B	QCNCWN0857AWZZ	J AF	Connector Ass'y,6-6Pin
CNS101A/B	QCNCWN1215AWZZ	J AL	Connector Ass'y,6-7Pin
CNS102/CNS103/FWM2	QCNCWN1216AWZZ	J AL	Connector Ass'y,11-2-13Pin
CNS261	QCNCWN1310AWZZ	J	Connector Ass'y,11-2-13Pin
CNS601/CNS151	QCNCWN1256AWZZ	J AG	Connector Ass'y,6-6Pin
CNS620/CNS201	QCNCWN1210AWZZ	J AG	Connector Ass'y,6-6Pin
CNS630/CNS401/CNS550	QCNCWN1211AWZZ	J AP	Connector Ass'y,11-8-3Pin
CNS640	QCNCWN1297AWZZ	J AD	Lead Wire Ass'y
CNS703	QCNCWN1207AWZZ	J AE	Connector Ass'y,2-2Pin
CNS704	QCNCWN1208AWZZ	J AE	Connector Ass'y,3-3Pin
CNS706A/B	QCNCWN1209AWZZ	J AE	Connector Ass'y,2-2Pin
CNS801A/B	QCNCWN1299AWZZ	J AH	Connector Ass'y,13-13Pin
CNS802A/B	QCNCWN1300AWZZ	J AH	Connector Ass'y,12-12Pin
CNS850	QCNCWN1212AWZZ	J AG	Connector Ass'y,7-7Pin
CNS851	QCNCWN1298AWZZ	J AD	Lead Wire Ass'y
CNS960/CNS1904	QCNCWN1296AWZZ	J AH	Connector Ass'y,2-4Pin and Lug
CNS970/A	QCNCWN1271AWZZ	J AG	Connector Ass'y,2-2Pin
CW1901	QCNCWN1042AWZZ	J AD	Flat Cable,5Pin
△ F802,803	92LFUSE-T502-D	J AD	Fuse,T5A/125V
△ F804	92LFUSE-T202-D	J AD	Fuse,T2A/250V
△ F805	92LFUSE-T252-D	J AD	Fuse,T2.5A/250V
FE301	RTUNS0008AWZZ	J AN	FM Front End
FL711	VVKCK1671M/-1	J BD	FL Display
JK151	QJAKM0190AFZZ	J AG	Jack,MD IN/AUX 1
JK401	92LJACKL1706A	J AH	Jack,ANALOG IN/OUT
JK620	QJAKH0001AWZZ	J AH	Jack,Headphones
JOG701	QSW-Z0003AWZZ	J AH	Switch,Push Type [JOG]

NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
M271	92LMTR1810A	J AK	Motor,Air Cooling Fan
M701	92LMTR1854CASY	J AS	CD Spindle Motor with Chassis Ass'y.
M702	92LMTR1854BASY	J AP	CD Sled Motor with Gear Ass'y.
M901	RMOTV0012AWZZ	J AV	MD Spindle Motor Ass'y.
M902	RMOTV0013AWZZ	J AP	MD Sled Motor Ass'y.
M903	RMOTV0014AWZZ	J AP	MD Loading Motor Ass'y.
MM1	92PF525-304	J AX	Motor with Pulley [TAPE] (Supplies at Ref No.217-2)
MOB1	RMOTV0373AFM1	J AQ	Motor with Pulley [CD Changer]
MOB2	RMOTV0373AFM1	J AQ	Motor with Pulley [CD Changer]
PHM1	—————	—	Photo Interrupter (Supplies at Ref No.PWB-F)
RL201	RRLYD0004AWZZ	J AP	Relay
RX701	VHLNJJL62H38-1	J AF	Remote Sensor
SO201	QTANA0404AWZZ	J AF	Terminal,Speaker
SO301	QTANC0404AWZZ	J AF	Treminal,Antenna
SOL1	—————	—	Solenoid (Supplies at Ref No.217-3 [PWB-F])
SW1	—————	—	Switch,Leaf Type [F-REC] (Supplies at Ref No.217-3 [PWB-F])
SW2	—————	—	Switch,Leaf Type [Play] (Supplies at Ref No.217-3 [PWB-F])
SW3	—————	—	Switch,Leaf Type [Pack] (Supplies at Ref No.217-3 [PWB-F])
SW4	—————	—	Switch,Leaf Type [CrO <sub>2</sub> ] (Supplies at Ref No.217-3 [PWB-F])
SW5	—————	—	Switch,Leaf Type [R-REC] (Supplies at Ref No.217-3 [PWB-F])
SW101	92LSWICH-414D	J AD	Switch,Slide Type [BEAT CANCEL]
SW701	QSW-K0006AWZZ	J AC	Switch,Key Type [VOLUME-UP]
SW702	QSW-K0006AWZZ	J AC	Switch,Key Type [VOLUME-DOWN]
SW702A	QSW-F9001AW01	J AD	Switch,Push Type [Pickup In]
SW703	QSW-K0006AWZZ	J AC	Switch,Key Type [MD REC]
SW704	QSW-K0006AWZZ	J AC	Switch,Key Type [S.SYNC]
SW705	QSW-K0006AWZZ	J AC	Switch,Key Type [MD PLAY]
SW706	QSW-K0006AWZZ	J AC	Switch,Key Type [MD STOP]
SW707	QSW-K0006AWZZ	J AC	Switch,Key Type [MD EJECT]
SW711	QSW-K0006AWZZ	J AC	Switch,Key Type [CD STOP]
SW712	QSW-K0006AWZZ	J AC	Switch,Key Type [CD PLAY]
SW713	QSW-K0006AWZZ	J AC	Switch,Key Type [DISC1 PLAY]
SW714	QSW-K0006AWZZ	J AC	Switch,Key Type [DISC2 PLAY]
SW715	QSW-K0006AWZZ	J AC	Switch,Key Type [DISC3 PLAY]
SW716	QSW-K0006AWZZ	J AC	Switch,Key Type [DISC3 EJECT]
SW717	QSW-K0006AWZZ	J AC	Switch,Key Type [DISC2 EJECT]
SW718	QSW-K0006AWZZ	J AC	Switch,Key Type [DISC1 EJECT]
SW721	QSW-K0006AWZZ	J AC	Switch,Key Type [AUX]
SW722	QSW-K0006AWZZ	J AC	Switch,Key Type [X-BASS]
SW723	QSW-K0006AWZZ	J AC	Switch,Key Type [TUNER BAND]
SW724	QSW-K0006AWZZ	J AC	Switch,Key Type [PRE-EQ]
SW725	QSW-K0006AWZZ	J AC	Switch,Key Type [POWER]
SW731	QSW-K0006AWZZ	J AC	Switch,Key Type [TRACK EDIT]
SW732	QSW-K0006AWZZ	J AC	Switch,Key Type [NAME/TOC EDIT]
SW733	QSW-K0006AWZZ	J AC	Switch,Key Type [CD>MD EDIT]
SW734	QSW-K0006AWZZ	J AC	Switch,Key Type [MD>MD EDIT]
SW735	QSW-K0006AWZZ	J AC	Switch,Key Type [TAPE>MD EDIT]
SW736	QSW-K0006AWZZ	J AC	Switch,Key Type [DOLBY NR]
SW737	QSW-K0006AWZZ	J AC	Switch,Key Type [REVERSE MODE]
SW741	QSW-K0006AWZZ	J AC	Switch,Key Type [DOWN]
SW742	QSW-K0006AWZZ	J AC	Switch,Key Type [TIMER/DELETE]
SW743	QSW-K0006AWZZ	J AC	Switch,Key Type [DISPLAY]
SW744	QSW-K0006AWZZ	J AC	Switch,Key Type [UP]
SW745	QSW-K0006AWZZ	J AC	Switch,Key Type [ENTER]
SW746	QSW-K0006AWZZ	J AC	Switch,Key Type [REC MODE]
SW747	QSW-K0006AWZZ	J AC	Switch,Key Type [CD>TAPE EDIT]
SW748	QSW-K0006AWZZ	J AC	Switch,Key Type [MD>TAPE EDIT]

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NO.	PART CODE	★	PRICE RANK	DESCRIPTION
SW751	QSW-K0006AWZZ	J	AC	Switch,Key Type [POLE POSITION]
SW752	QSW-K0006AWZZ	J	AC	Switch,Key Type [TAPE FORWARD]
SW753	QSW-K0006AWZZ	J	AC	Switch,Key Type [TAPE STOP]
SW754	QSW-K0006AWZZ	J	AC	Switch,Key Type [TAPE REVERSE]
SW755	QSW-K0006AWZZ	J	AC	Switch,Key Type [REC PAUSE]
SW756	QSW-K0006AWZZ	J	AC	Switch,Key Type [REWIND]
SW757	QSW-K0006AWZZ	J	AC	Switch,Key Type [FF]
SW951	92LSWICH-1385A	J	AC	Switch,Key Type [RESET]
SW1952	QSW-P0006AWZZ	J	AG	Switch,Push Type [DERECT]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Push Type [LEAD IN]
SW1954	QSW-M0002AWZZ	J	AD	Switch,Push Type [PLAY]
SW1955	QSW-M0002AWZZ	J	AD	Switch,Push Type [RECORD]
SW1956	QSW-M0156AFZZ	J	AC	Switch,Push Type [LOADING]
SWB101,102	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam1,2]
SWB103,104	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam3,4]
SWB105	QSW-P0920AFZZ	J	AC	Switch,Leaf Type [CD EJECT]
SWB106	QSW-P0920AFZZ	J	AC	Switch,Leaf Type [CD Tray CLOSE]
SWB107	QSW-P0920AFZZ	J	AC	Switch,Leaf Type [CD IN]
SWB108	QSW-P0920AFZZ	J	AC	Switch,Leaf Type [CD SET]
TP102	QCNCW679CAFZZ	J	AC	Test Pin,3Pin
UNA901	VHPGP1F32R/-1	J	AP	Optical Fiber Data Link, GP1F32R

## MD MECHANISM PARTS

1	LANGF0033AWZZ	J	AD	MD Guide (A)
2	LANGF0034AWZZ	J	AD	MD Guide (B)
3	LANGK0092AWFW	J	AM	Base Frame
4	LCHSM0060AWM1	J	AP	Drive Plate
5	LHLDX3001AWM1	J	AP	Holder,Cartridge
6	MLEVP0024AWM1	J	AF	Lever,Cam Plate
7	MLEVF0025AWZZ	J	AD	Arm,H/A Shift
8	MLEVF0026AWZZ	J	AF	Arm,Holder
9	MLEVF0029AWM1	J	AL	Lever,Roller Arm
10	MLEVP0075AWZZ	J	AD	Lever,Clampa
11	MLEVP0076AWZZ	J	AC	Lever,Catch
12	MLEVP0077AWZZ	J	AC	Lever,Slider
13	MSPRD0103AWFJ	J	AB	Spring,Roller Holder
14	MSPRD0105AWFJ	J	AB	Spring,Spin
15	MSPRD1318AFFJ	J	AB	Spring,Shift Arm
16	MSPRD1319AFFJ	J	AB	Spring,Holder Arm
17	MSPRT0018AWFJ	J	AB	Spring,Lack
18	MSPRD1334AFFJ	J	AC	Spring,Catch
19	MSPRP0015AWFJ	J	AB	Spring,Board (A)
20	MSPRP0017AWFJ	J	AB	Spring,Drive Shaft
21	MSPRT1566AFFJ	J	AB	Spring,Roller Arm
22	NGERH0066AWZZ	J	AC	Gear,Loading (B)
23	NGERH0067AWZZ	J	AC	Gear,Drive
24	NGERH0068AWZZ	J	AC	Gear,Loading (A)
25	NGERH0069AWZZ	J	AC	Gear,Roller
26	NGERR0002AWZZ	J	AC	Gear,Lack
29	NROLP0010AWZZ	J	AC	Holder,Roller
30	NROLR0001AWZZ	J	AC	Roller,Transfer
31	NSFTD0005AWFT	J	AF	Screw,Drive
32	NSFTM0017AWFW	J	AC	Shaft,Loading Gear
33	NSFTM0277AFFW	J	AC	Shaft,Pickup Slide
34	NSFTM0278AFFW	J	AC	Shaft,Pickup Guide
35	PCOVS3021AWFW	J	AL	Cover,Top
36	PCOVS3022AWFW	J	AK	Cover,Bottom
37	PCUSG0531AFSA	J	AD	Cushion (A)
38	PCUSG0531AFSB	J	AD	Cushion (B)
39	PCUSS0041AWZZ	J	AC	Cushion,Head
40	RCILH0108AFZZ	J	AP	Magnetic Head
41	RCTRH8173AFZZ	J	BN	Optical Pickup Unit
42	QCNWN6715AFM1	J	AM	MD Flat Cable,24Pin
43	QCNWN1044AWZZ	J	AG	Connector Ass'y,2Pin
45	PSHEP0024AWZZ	J	AC	Sheet,Head
46	PSHEP0026AWZZ	J	AC	Sheet,H/A Shift Arm
601	LX-BZ0030AWZZ	J	AB	Screw,ø1.7×9.5mm
602	LX-BZ0031AWZZ	J	AB	Screw,ø1.7×7.5mm
603	LX-BZ0032AWZZ	J	AB	Screw,ø1.7×2mm
604	LX-BZ0804AFFH	J	AA	Screw,ø1.4×2.2mm
605	LX-BZ0846AFZZ	J	AB	Screw,ø1.7×3mm
606	LX-BZ0851AFZZ	J	AB	Screw,ø1.7×2.5mm
607	LX-BZ0852AFFD	J	AC	Screw,ø1.7×8.9mm
608	LX-BZ0883AFZZ	J	AB	Screw,ø1.7×5mm
609	LX-WZ9268AFZZ	J	AA	Washer,ø1.5×ø3.2×0.5mm
610	LX-WZ9269AFZZ	J	AA	Washer,ø1.2×ø3×0.25mm

NO.	PARTS CODE	★	PRICE RANK	DESCRIPTION
611	XBPSD20P04K00	J	AA	Screw,ø2×4mm with Washer
612	XSPSN17P03K00	J	AB	Screw,ø1.7×3mm
M901	RMOTV0012AWZZ	J	AV	MD Spindle Motor Ass'y
M902	RMOTV0013AWM1	J	AQ	MD Sled Motor Ass'y
M903	RMOTV0014AWM1	J	AQ	MD Loading Motor Ass'y
SW1952	QSW-P0006AWZZ	J	AG	Switch,Push Type [DERECT]
SW1953	QSW-M0157AFZZ	J	AD	Switch,Slide Type [LEAD IN]
SW1954	QSW-M0002AWZZ	J	AD	Switch,Push Type [PLAY]
SW1955	QSW-M0002AWZZ	J	AD	Switch,Push Type [MD RECORD]
SW1956	QSW-M0156AFZZ	J	AC	Switch,Push Type [LOADING]

## CD MECHANISM PARTS

301	NGERH0011AWZZ	J	AC	Gear,Middle
302	NGERH0012AWZZ	J	AC	Gear,Drive
303	MLEVP0010AWZZ	J	AC	Rail,Guide
304	NSFTM0002AWFW	J	AE	Shaft,Guide
305	92LMCUSN1524A	J	AD	Cushion [Gray]
306	RCTRH8164AFZZ	J	BF	Pickup Unit Ass'y
306-1				Pickup Unit (Not Replacement Item)
306-2	NGERH0010AWZZ	J	AB	Gear,Rack
306-3	MSPRC0961AFZZ	J	AA	Spring,Rack
307	PCUSG0001AWSA	J	AD	Cushion [Green]
308	PCUSG0004AWSA	J	AD	Cushion [Red-Brown]
701	XBSSD26P06000	J	AA	Screw,ø2.6×6mm
702	XHBSD20P05000	J	AA	Screw,ø2×5mm
703	XBBS20P03000	J	AA	Screw,ø2×3mm
704	LX-WZ1070AFZZ	J	AA	Washer,ø1.5×ø3.8×0.25mm
M701	92LMTR1854CASY	J	AS	Motor,Ass'y.
M702	92LMTR1854BASY	J	AP	Motor,Ass'y.
SW702A	QSW-F9001AW01	J	AD	Switch,Push Type [PICKUP IN]

## CHANGER MECHANISM

101	LCHSM0037AWZZ	J	AP	Main Base
102	LANGF0024AWZZ	J	AE	Top Board
103	NROLP0007AWZZ	J	AB	Rollar,Cam Guide
104	NPLYR0004AWZZ	J	AC	Pulley,Drive
105	NGERH0052AWZZ	J	AC	Gear,Idler
106	NGERH0053AWZZ	J	AB	Gear,Cam
107	NGERH0054AWZZ	J	AB	Gear,Middle
108	NGERH0057AWZZ	J	AB	Gear,Tray Idler
109	MCAMP0127AFZZ	J	AR	Main Cam
110	MLEVP0056AWZZ	J	AC	Lever,Front Switch
111	MLEVP0057AWM1	J	AC	Lever,Rear Switch Ass'y.
112	MLEVP0058AWZZ	J	AB	Lever,Tray Lock
113	PGIDM0018AWZZ	J	AF	Holder Mecha
114	PGIDM0019AWZZ	J	AE	Stabilizer Holder
115	LHLDM1008AWZZ	J	AD	Stabilizer
116	PGIDM0017AWZZ	J	AC	Guide,Mecha Holder
119	GCOVA1152AWZZ	J	AL	Tray,Disc Guide
120	GCOVA1153AWZZ	J	AF	Tray,Disc
121	LANGF0025AWZZ	J	AB	Bracket,Switch
122	NSFTL0001AWZZ	J	AB	Shaft,Tray Change
123	MSPRD0078AWFJ	J	AB	Spring,Tray Switch
124	MSPRD0080AWFJ	J	AB	Spring,Tray Lock Lever
125	MSPRD0079AWFJ	J	AB	Spring,Disc Top
126	NBLTK0028AWZZ	J	AB	Belt,Tray Drive
127	NBLTK0027AWZZ	J	AB	Belt,Cam Drive
128	PMAGF0001AWZZ	J	AF	Magnet
129	92LN-BAND1318A	J	AA	Nylon Band,80mm
130	PGUMS0016AWZZ	J	AB	Rubber,Tray
131	LANGF0028AWZZ	J	AB	Bracket,Mecha Holder
132	LCHSM0038AWZZ	J	AK	Changer Box
133	NGERH0055AWZZ	J	AC	Gear,Center
134	NGERH0056AWZZ	J	AB	Gear,Center Tray
135	NGERH0058AWZZ	J	AB	Gear,Tray Drive
136	MLEVP0052AWZZ	J	AC	Lever,Tray Change
137	MLEVP0053AWZZ	J	AC	Lever,Top Joint
138	MLEVP0054AWZZ	J	AC	Lever,Middle Joint
139	MLEVP0055AWZZ	J	AC	Lever,Bottom Joint
801	XBPSD26P04000	J	AA	Screw,ø2.6×4mm
802	XEBSD20P07000	J	AB	Screw,ø2×7mm
803	XEBSD20P06000	J	AA	Screw,ø2×6mm
804	XEBSD26P12000	J	AA	Screw,ø2.6×12mm
805	LX-EZ0005AWFD	J	AA	Screw,ø2.6×10mm
MOB1	RMOTV0373AFM1	J	AQ	Motor with Pulley
MOB2	RMOTV0373AFM1	J	AQ	Motor with Pulley
SWB101,102	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam1,2]
SWB103,104	QSW-F0353AFZZ	J	AD	Switch,Leaf Type [Cam3,4]

NO.	PART CODE	★ PRICE RANK	DESCRIPTION	NO.	PARTS CODE	★ PRICE RANK	DESCRIPTION
SWB105	QSW-P0920AFZZ	J AC	Switch,Push Type [CD EJECT]	230	LANGZ0021AWFW	J AF	Bracket,MD Mechanism,Back
SWB106	QSW-P0920AFZZ	J AC	Switch,Push Type [CD Tray CLOSE]	△ 231	LBSHC0002AWZZ	J AD	Bushing,AC Power Supply Cord
SWB107	QSW-P0920AFZZ	J AC	Switch,Push Type [CD IN]	232	LCHSM00069AWFW	J AS	Main Chassis
SWB108	QSW-P0920AFZZ	J AC	Switch,Push Type [CD SET]	233	LCHSS0004AWZZ	J AS	Holder,MD
<b>CABINET PARTS</b>				235	LHLDX1013AWSA	J AG	Holder,Panel Cassette Tape
201	92LCAB2941AS1	J	Front Panel Ass'y	236	LHLDZ1124AW00	J AC	Holder,MD Lid
201- 1	—	—	Front Panel (Not Replacement Item)	237	LHLDZ1190AWZZ	J AC	Holder,LED,Left
201- 2	92LCUSN1746A	J AA	Cushion,Leg	238	LHLDZ1191AWZZ	J AC	Holder,LED,Right
201- 3	HBDGB1001AWSA	J AD	Badge,SHARP	239	LHLDZ1192AWZZ	J AC	Holder,DUB MODE,LED
201- 4	HDECQ0379AWSA	J	Display Panel	240	LHLDZ1193AWZZ	J AF	Holder,FL
201- 5	HDECQ0320AWSA	J AC	Indicator,CD>MD	241	LHLDZ1194AWZZ	J AE	Holder,MD Unit,Left
201- 6	HDECQ0321AWSA	J AC	Indicator,MD>MD	242	LHLDZ1195AWZZ	J AE	Holder,MD Unit,Right
201- 7	HDECQ0322AWSA	J AC	Indicator,TAPE>MD	243	MLIFP0006AWZZ	J AE	Damper
201- 8	HDECQ0323AWSA	J AC	Indicator,POLE POSITION	244	MLOKC0004AWZZ	J AD	Lock Lever,Cassette
201- 9	HDECQ0324AWSA	J AC	Indicator,CD>TAPE	245	MSPRD0027AWZZ	J AB	Spring,MD Door
201-10	HDECQ0325AWSA	J AC	Indicator,MD>TAPE	246	MSPRD0093AWFJ	J AB	Spring,Cassette Holder
201-11	HDECQ0326AWSA	J AF	Panel,Knob,Jog	247	MSPRD0108AWFJ	J AC	Spring,Fan Motor
201-12	HDECQ0328AWSA	J AG	Indicator,DUB MODE	248	MSPRD0110AWFJ	J AB	Spring,Lock Lever,Cassette
201-13	HDECQ0329AWSA	J AE	Button,DISC 1 PLAY	249	NBRGC0003AWZZ	J AC	Bearing Metal
201-14	HDECQ0330AWSA	J AE	Button,DISC 2 PLAY	250	NFANP0001AWZZ	J AD	Fan Motor
201-15	HDECQ0331AWSA	J AE	Button,DISC 3 PLAY	251	PCOVS3023AWFW	J AK	Cover,FL
201-16	JKNBZ0500AWSA	J AE	Button,POWER	252	PCOVS3026AWFW	J AH	Shield,Display P.W.B.
201-17	JKNBZ0501AWSA	J AE	Button,PRE-EQ/X-BASS	253	PCUSG0008AWZZ	J AB	Cushion,Fan Motor
201-18	JKNBZ0502AWSA	J AE	Button,REC/S. SYNC	254	PRDAR0049AWFW	J AK	Heat Sink
201-19	JKNBZ0504AWSA	J AG	Button,TUNER (BAND)/AUX	255	PRDAR0075AWFW	J AP	Heat Sink
201-20	JKNBZ0505AWSA	J AG	Button,VOLUME-UP/DOWN	256	PRDAR0076AWFW	J AQ	Heat Sink
201-21	JKNBZ0506AWSA	J AE	Button,DOLBY NR/REVERSE MODE	△ 257	QACCD0014AWZZ	J AK	AC Power Cord
201-22	JKNBZ0507AWSA	J AH	Button,TAPE FF/REWIND/REC PAUSE	△ 258	QFSDH0001AWZZ	J AB	Holder,Fuse [FH803~FH810]
201-23	JKNBZ0508AWSA	J AG	Button,CD OPERATION	261	92LLUG1746A	J AA	Lug,K801,K802
201-24	JKNBZ0509AWSB	J	Button,MD PLAY/STOP	601	LX-BZ0880AFZZ	J AC	Screw,ø2×2.2mm
201-25	JKNBZ0510AWSA	J AG	Button,TAPE FORWARD/REVERSE/STOP	602	LX-HZ0009AWFD	J AC	Screw,Special
201-26	JKNBZ0511AWSA	J AL	Button,OPERATION Ass'y.	603	LX-HZ0082AFZZ	J AA	Screw,ø4×8mm
201-27	PSHEP0015AWZZ	J AD	Cover,Jack	604	LX-JZ0010AFFD	J AA	Screw,ø3×10mm
202	92LCAB2854CS1	J BA	Cabinet	605	LX-JZ0022AFFD	J AA	Screw,ø3×10mm
203	92LCSPR1431C	J AA	Ring,Spring	606	LX-JZ0033AFFD	J AA	Screw,ø3×8mm
204	92LCUSN1746A	J AA	Cushion,Leg	607	LX-JZ0039AFFD	J AA	Screw,ø3×12mm
205	92LN-BAND1318A	J AA	Nylon Band,80mm	608	XBPSD30P10KS0	J AA	Screw,ø3×10mm
206	GCOVA1192AWSA	J AG	Cover,CD Tray 1	609	XEBSD26P10000	J AA	Screw,ø2.6×10mm
207	GCOVA1193AWSA	J AG	Cover,CD Tray 2	610	XEBSD30P10000	J AA	Screw,ø3×10mm
208	GCOVA1194AWSA	J AG	Cover,CD Tray 3	611	XEBSF30P10000	J AA	Screw,ø3×10mm
209	GCOVD1007AW00	J AC	Cover,Connector	612	XHBSD26P04000	J AA	Screw,ø2.6×4mm
210	GDORF0037AWSA	J AF	MD Lid	613	XJBSD30P08000	J AA	Screw,ø3×8mm
211	GITAR0377AWSA	J	Back Panel [Upper]	614	XJBSD30P14000	J AA	Screw,ø3×14mm
212	GITAR0378AWSA	J	Back Panel [Bottom]	615	XJBSF30P08000	J AA	Screw,ø3×8mm
213	HDECQ0317AWSA	J AL	Cover,Cassette Holder	616	XESSD30P10000	J AA	Screw,ø3×10mm
214	HDECQ0318AWSA	J AE	Decoration Plate,Tape Deck,Left	617	XBPSD30P14KS0	J AA	Screw,ø3×14mm
215	HDECQ0319AWSA	J AE	Decoration Plate,Tape Deck,Right	618	XWHFZ32-10100	J AA	Fiber Washer ø3.2×ø10×1mm
216	JKNBK0045AWSC	J	Knob,MD INPUT LEVEL	<b>SPEAKER BOX PARTS</b>			
217	KMECB0007AWZZ	J BL	Cassette Mechanism Ass'y.	901	92L100L2PX6010	J BL	Cabinet Ass'y.,Left
217- 1	92PF513-810	J AY	Head,Playback/Record/Erase	901	92L100R2PX6010	J BL	Cabinet Ass'y.,Right
217- 2	92PF525-304	J AX	Motor with Pulley [MM1]	902	92L200L0PX6010	J AR	Front Panel,Left
217- 3	92PF567-616	J AX	Cassette Mechanism [PWB-F]	902	92L200R0PX6010	J AR	Front Panel,Right
217- 4	92PF522-037	J AR	Clutch	903	92L201L0PX6010	J AR	Net Frame Ass'y.,Left
217- 5	92PFF17G-31	J AG	Belt,Flywheel	903	92L201R0PX6010	J AR	Net Frame Ass'y.,Right
217- 6	92PF522-031	J AT	Clutch	904	92L21000PX6000	J AP	Holder,Woofers
217- 7	92PF514-118	J AK	Pinch Roller Ass'y.,Forward	905	92L23056121000	J AD	Holder,Catcher
217- 8	92PF514-119	J AK	Pinch Roller Ass'y.,Reverse	906	92L303R0300610	J AQ	Holder Ass'y.,Super Tweeter (SP5,6)
217- 9	92PFF18W-12	J AF	Belt,FF/REW	907	92L3121CPX6010	J AN	Speaker Cord Ass'y.
218	KNOB2854AASY1	J AH	Knob,Jog Ass'y.	908	92L3141CPX6010	J AP	Net Work Cord Ass'y. [Condenser and Wire Lied]
218- 1	—	—	Knob,Jog (Not Replacement Item)	909	411B1300B0P1	J AC	Screw,ø3×10mm
218- 2	HDECQ0327AWSA	J AH	Knob Decoration,Jog	910	411B840160P1	J AD	Screw,ø4×16mm
219	LANGK0060AWFW	J AD	Bracket,PWB-B3 [Top]	911	411B930100P1	J AC	Screw,ø3×8mm
220	LANGK0061AWFW	J AD	Bracket,PWB-B3 [Bottom]	912	411S84016AB1	J AE	Screw,ø4×16mm
221	LANGK0083AWFW	J AD	Bracket,PWB-J	913	92L43040410000	J AE	Duct Pipe
222	LANGK0111AWFW1	J AD	Bracket,Cassette Mechanism	914	92L44010110200	J AE	Cushion,Duct
223	LANGK0116AWFW	J AE	Bracket,PWB-C2	915	92L44210310100	J AD	Cushion,Wire
224	LANGK0117AWFW	J AH	Bracket,CD Changer [Bottom]	916	92L60000PX6000	J AD	Label,Specification
225	LANGK0118AWFW	J AH	Bracket,CD Changer [Back]	917	411B930060P1	J AC	Screw,ø3×6mm
226	LANGK0119AWFW	J AG	Bracket,Fan Motor	SP1,2	VSP0015WB066A	J	Woofers
227	LANGK0120AWFW	J AE	Bracket,PWB-C1,Left	SP3,4	VSP0065TB244A	J AU	Tweeters
228	LANGK0121AWFW	J AE	Bracket,PWB-C1,Right	<b>ACCESSORIES/PACKING PARTS</b>			
229	LANGK0133AWFW	J AF	Bracket,MD Frame Side		SPAKA0199AWZZ	J AR	Packing Add.,Left/Right Unit (Canada Only)
					SPAKC0687AWZZ	J AX	Packing Case(Canada Only)
					SSAKH0029AWZZ	J AF	Polyethylene Bag,Unit (Canada Only)

# MD-X60

NO.	PART CODE	★ PRICE RANK	DESCRIPTION
	TINSE0226AWZZ	J	Operation Manual
	TINSZ0338AWZZ	J	Quick Guide
	TLABR0986AWZZ	J AB	Label,Bar Code(Canada Only)
	TLABZ0485AWZZ	J	Label,Feature(Canada Only)
		J AE	Battery,SUM-3 (Not Replacement Item)
	92LBAG1460C1	J AB	Polyethylene Bag,Accessories
	92LF-ANT1533A	J AD	FM Antenna
	92LL-ANT1676A	J AK	AM Loop Antenna
	92LLABL372C	J AB	Label,Serial No.
	92L70032002110	J	Polyethylene Bag,Speaker (Canada Only)
	92L71525003000	J AD	Sheet,Speaker(Canada Only)
	92L7200CPX6000	J AT	Packing Add.,Top/Bottom Speaker(Canada Only)
	92L74231001800	J AE	Shield Pad,Speaker (Canada Only)
	RRMCG0156AWSA	J	Remote Control
	GFTAB1020AWSA	J	Lid,Remote Control

## P.W.B. ASSEMBLY (Not Replacement Item)

PWB-A	92LPWB2941MANS	J	–	Main
PWB-B1~8	92LPWB2941DPLS	J	–	Display/Operation/Tuner/MD Input Level/Headphone/Switch/ CD Eject Switch/Holder (Combined Ass'y)
△ PWB-C1~3	92LPWB2941PWRS	J	–	Power/Power Amp./Fuse (Combined Ass'y)
PWB-D	92LPWB2844MDSS	J	–	MD Main
PWB-E	QPWBF0400AWZZ	J	AC	MD Mechanism Switch (PWB Only)
PWB-F	92PF567-616	J	AX	Tape Mechanism
PWB-H	QPWBF0027AWZZ	J	AD	CD Motor (PWB Only)
PWB-I	QPWBF0322AWZZ	J	AC	Tray Switch (PWB Only)
PWB-J	QPWBX0004AWZZ	J	AE	MD Jack (PWB Only)



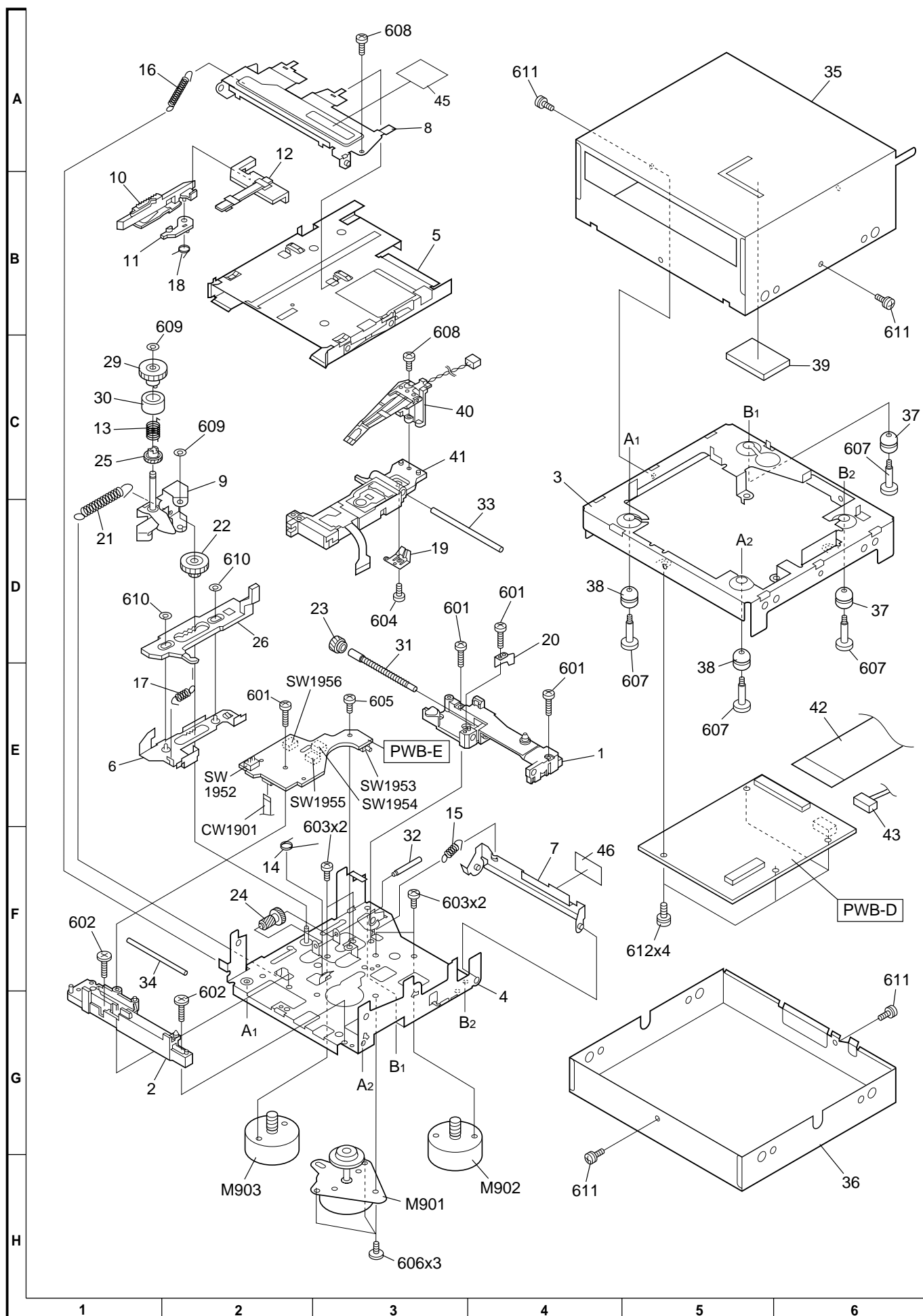


Figure 12 MD MECHANISM EXPLODED VIEW

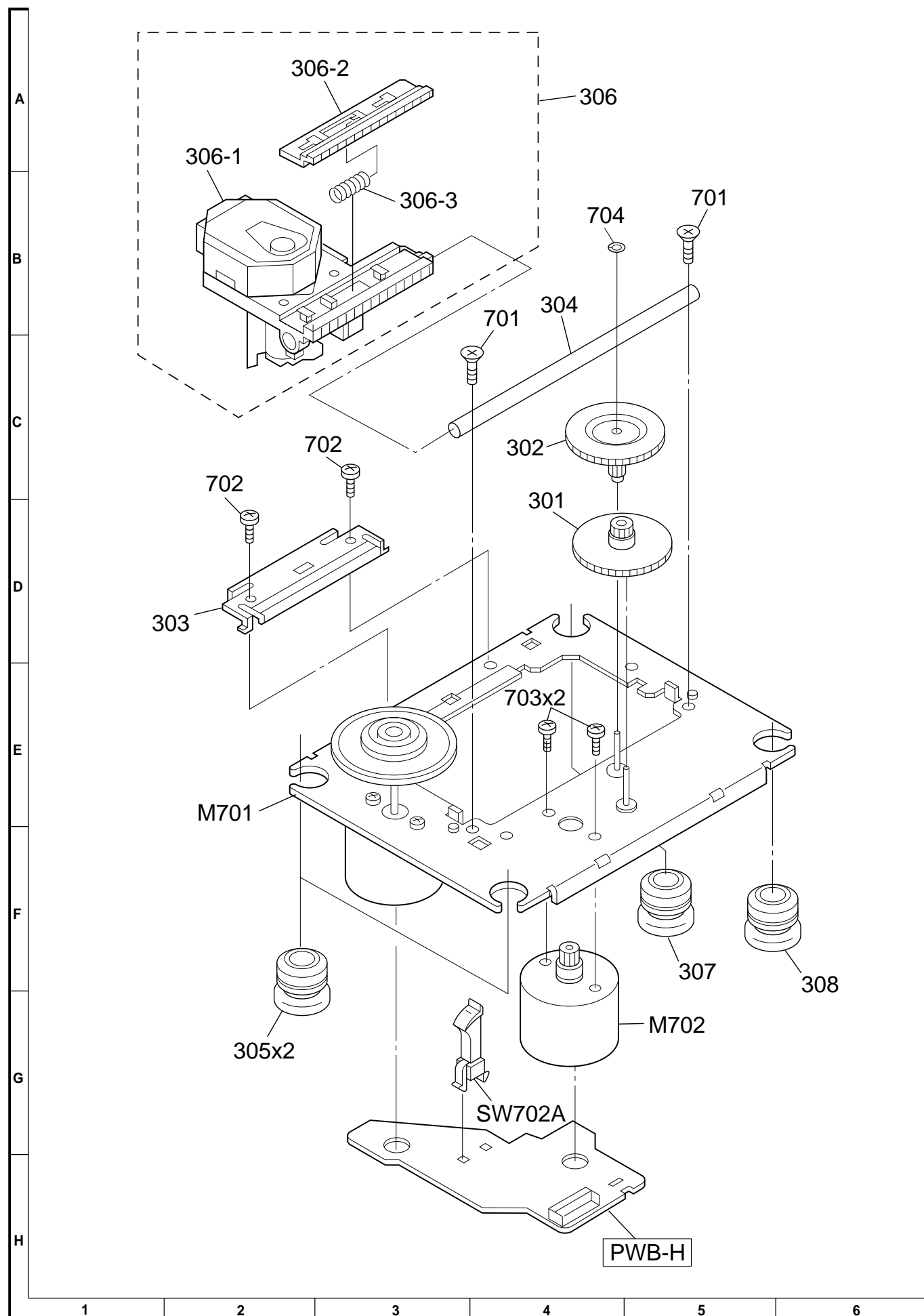


Figure 13 CD MECHANISM EXPLODED VIEW

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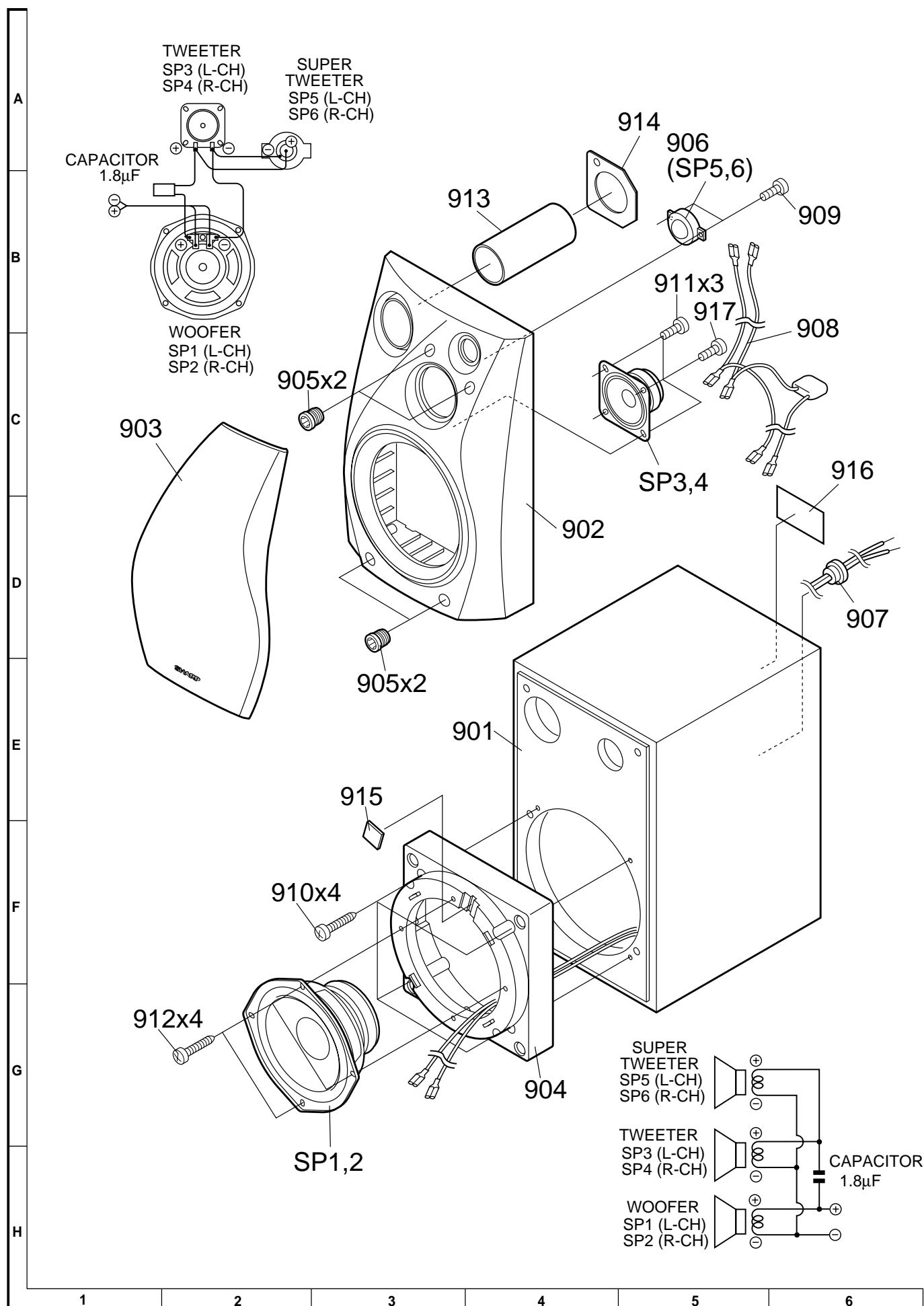
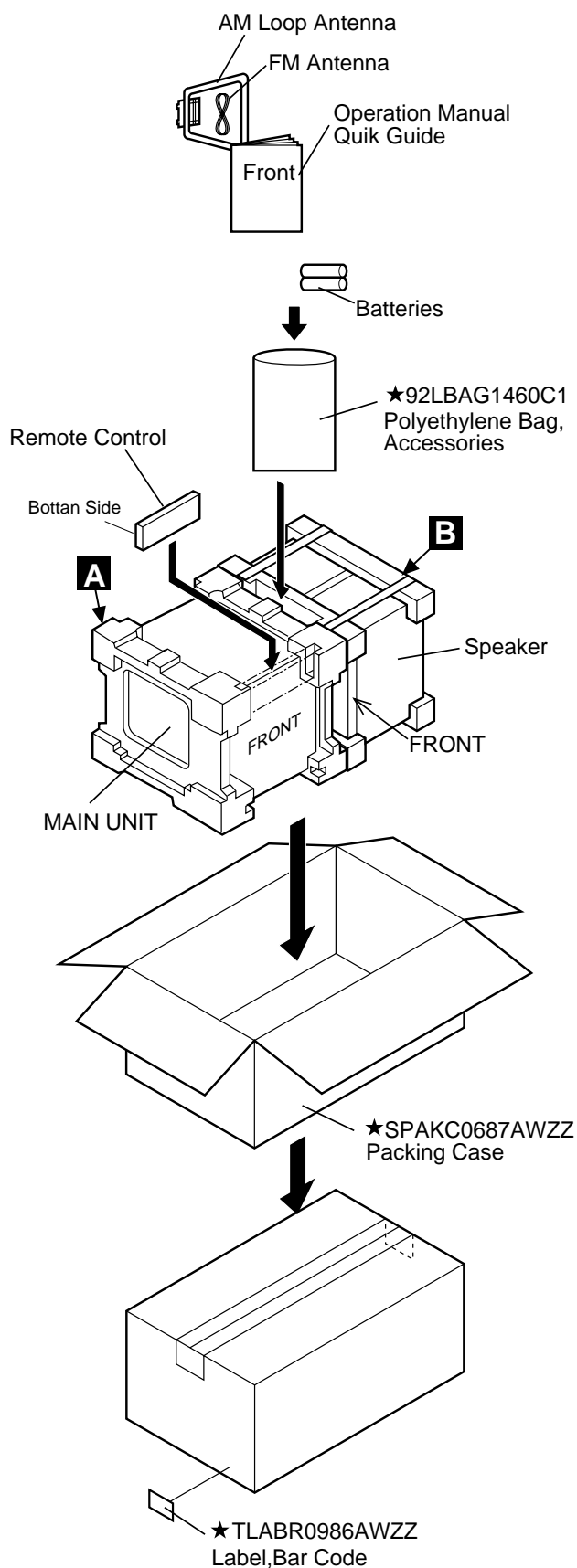
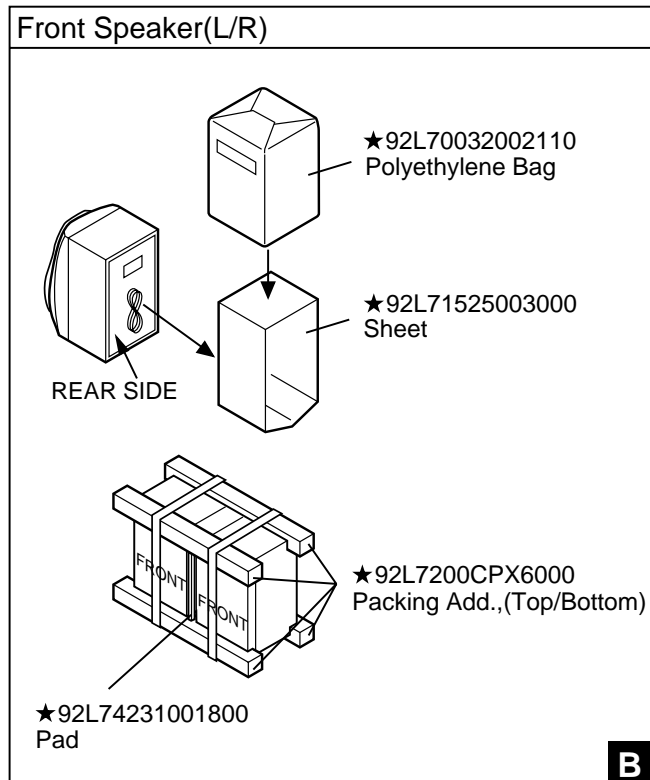
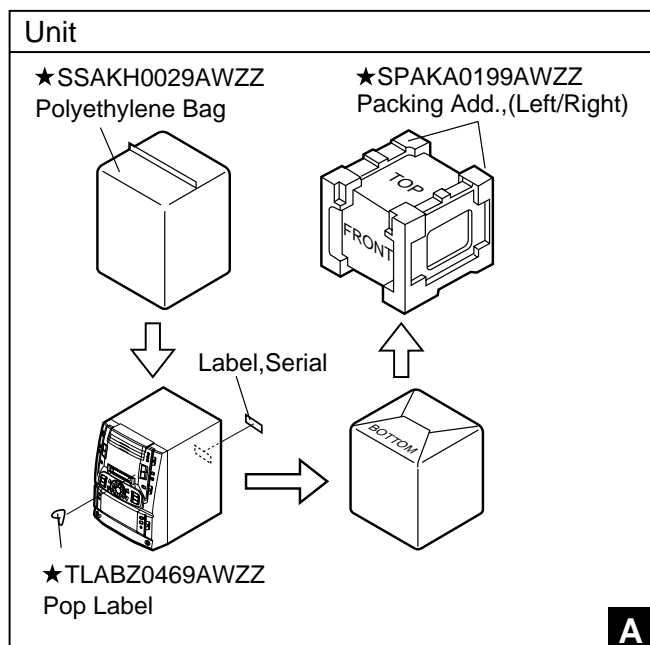


Figure 16 SPEAKER EXPLODED VIEW

## PACKING OF THE SET (For U.S.A. Only)



★ : Not Replaceable Items

## MEMO



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